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موقع مذكرات جاهزة للطباعة

**Unit 1 – concept 1 – Exam 1 اسئله بنك المعرفه علي الدرس الاول**

**Adaptations and Survival: Summative Assessment 1**

## 1- What is adaptation? ما هو التكيف؟

A. It is a process by which organisms create offspring.

إنها عملية تخلق بها الكائنات مواليد جديده.

**B. It is a process by which species change over many generations through mutation**

إنها عملية تتغير من خلالها الفصائل /الانواع عبر أجيال عديدة من خلال الطفرات

C. It is a form of pollination used by conifers.

إنه شكل من أشكال التلقيح التي تستخدمها الصنوبريات.

D. It is a form of excretion that organisms with a digestive system use to get rid of waste. وهو شكل من أشكال الإخراج تستخدمه الكائنات الحية ذات الجهاز الهضمي للتخلص من النفايات

**2.Imagine taking some fish from coastal waters and transferring them into a deep, dark, sea cave. Over time, the fish will breed and adapt to the new environment and survive. In future decades, scientists will explore the cave. Select the new traits scientists could possibly observe in the offspring of these fish.**

**تخيل أخذ بعض ألسماك من المياه الساحلية ونقلها إلى كهف بحري عميق ومظلم. بمرور الوقت ، سوف تتكاثر ألسماك وتتأقلم مع البيئة الجديدة وتعيش. في العقود المقبلة ، سيستكشف العلماء الكهف. حدد السمات الجديدة التي يمكن للعلماء مالحظتها في نسل هذه ألسماك**

Select the objects by clicking on the tile. Clicking on a selected object will deselect it.

Brilliant colors ألوان رائعة

Big fins زعانف كبيرة

**Colorless skin جلد عديم اللون**

**More efficient gills خياشيم أكثر كفاءة**

Good eyesight بصر جيدة

**Great hunting abilities قدرات صيد كبيرة**

**Loss of vision فقدان البصر**

Thick scales قشور سميكة

## 3. Which would die if it could not adapt to environmental change?

أيهما سيموت إذا لم يستطع التكيف مع التغير البيئي؟

A. a rock B. a car **C.an apple tree** D. a glass

## 4.What happens to organisms that cannot adapt to environmental change?

ماذا يحدث للكائنات الحية التي لا تستطيع التكيف مع التغير البيئي؟

A. The population increases. عدد السكان يزداد

**B. The organisms die off. الكائنات الحية تموت**

C. The population stays the same. يبقى السكان كما هو.

D. The biodiversity of the ecosystem increases. يزيد التنوع البيولوجي للنظام البيئي

## 5-How does the adaptation of traits over time benefit a species?

كيف يفيد تكيف السمات بمرور الوقت األنواع؟

A. It decreases the species survival rate during environmental change.

يقلل من معدل بقاء األنواع أثناء التغير البيئي.

**B. It increases the species survival rate during environmental change.**

يزيد من معدل بقاء األنواع أثناء التغير البيئي.

C. It changes all of the organism's structures. يغير جميع هياكل الكائن الحي .

D. It changes all of the organism's learned behaviors إنه يغير كل سلوكيات الكائن الحي المكتسبة

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## 6.What can be adapted over time and generations to allow species to survive environmental change?

ما الذي يمكن تكييفه بمرور الوقت والأجيال للسماح للأنواع بالبقاء على قيد الحياة في ظل التغيير البيئي؟

A. water B. air C. soil **D. traits**





**7. The growth of a plant is influenced by its adaptations to the weather conditions. A student observes that a desert plant fails to grow in humus-rich well-watered soil. The most likely reason for this is that ________________.**

يتأثر نمو النبات بتكيفه مع الظروف الجوية. يلاحظ طالب أن نباتًا صحراويًا لا ينمو في تربة غنية بالدبال ومروية جيدًا. السبب الأكثر احتمالا لذلك هو أن

A. humus prevents plant growth الدبال يمنع نمو النبات

**B. a desert plant survives in less water نبات صحراوي يعيش في مياه أقل**

C. water easily drains out in a humus soil .يمكن تصريف المياه بسهولة في تربة الدبال

D. a desert plant needs more nutrients in the soil for growth

يحتاج النبات الصحراوي إلى المزيد من العناصر الغذائية في التربة للنمو

**8- Antelope that live in wide, open plains must adapt by using**

يجب أن تتكيف الظباء التي تعيش في سهول واسعة ومفتوحة باستخدام

A. thick fur which helps to keep them warm in winter.

.الفراء السميك الذي يساعد على إبقائها دافئة في الشتاء

**B. long legs which help them run fast. الأرجل الطويلة التي تساعدهم على الجري بسرعة.**

C. bright colors to help them attract a mate. الألوان الزاهية لمساعدتهم على جذب رفيقهم.

D. their hard outer shell to protect them. غلافها الخارجي الصلب لحمايتها.









## اسئله بنك المعرفه على الدرس الاول

## Adaptations and Survival: Summative Assessment 1

## 1- What is adaptation?

A. It is a process by which organisms create offspring.

B. It is a process by which species change over many generations through mutation_

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Big fins

Colorless skin

More efficient gills

Good eyesight

Great hunting abilities

Loss of vision

Thick scales

## 3. Which would die if it could not adapt to environmental change?

A. a rock B. a car C.an apple tree D. a glass

**4.What happens to organisms that cannot adapt to environmental change?**

A. The population increases.

B. The organisms die off.

C. The population stays the same..

D. The biodiversity of the ecosystem increases.



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## 5-How does the adaptation of traits over time benefit a species?

A. It decreases the species survival rate during environmental change.

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C. It changes all of the organism's structures.

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## 6.What can be adapted over time and generations to allow species to survive environmental change?

A. water B. air C. soil D. traits

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A. humus prevents plant growth

B. a desert plant survives in less water

C. water easily drains out in a humus soil .

D. a desert plant needs more nutrients in the soil for growth

## 8- Antelope that live in wide, open plains must adapt by using

A. thick fur which helps to keep them warm in winter.

B. long legs which help them run fast..

C. bright colors to help them attract a mate. .

D. their hard outer shell to protect them.







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## Unit 1 Concept 1 – EX 2 اسئله بنك المعرفه الدرس الثانى

## Adaptations and Survival: Practice Assessment 2

**1._______ is a process by which species change over many generations through mutation.**

هي عملية تتغير من خلالها الأنواع عبر أجيال عديدة من خلال الطفرات

A. Pollination التلقيح
B. Photosynthesis التمثيل الضوئي
C. Reproduction التكاثر
**D. Adaptation التكيف**

**2-Adaptation is a process by which species change over many generations through _______.**

التكيف هو عملية تتغير من خلالها الأنواع عبر أجيال عديدة من خلال.

**A. mutation طفرة**

B. extinction انقراض

C. decomposition تحلل / تقسيم

D. digestion عملية الهضم

**3. The shape and size of a bird's beak had changed from the parent to the offspring.**

**This change in the physical beak trait is called ______.**

تغير شكل وحجم منقار الطائر من الأب إلى النسل يسمى هذا التغيير في سمة المنقار الجسدية

**A. a mutation طفرة**

B.an adaptation تكيف

C. a preservation الوقاية / الحفظ

D. a niche تخصص





## 4.______ is a change of traits, such as features and behaviors.

.هو تغيير في السمات ، مثل الميزات والسلوكيات

A. Habitat موطن

B. Adaptation تكيف

**C. Mutation طفرة**

D. Niche تخصص

## 5.Mutations over time and generations can improve ______.

يمكن أن تتحسن الطفرات بمرور الوقت والأجيال

A.an organism's survival بقاء الكائن الحي

B. air pollution تلوث الهواء

**C. a species' survival بقاء الأنواع**

D. water pollution تلوث المياه

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## 6.Organisms that cannot ______ will die off.

.الكائنات الحية التي لا تستطيع _______ سوف تموت

A. recycle إعادة التدوير

B. produce their own food إنتاج طعامهم

C. decompose تتحلل

**D. adapt to environmental change التكيف مع التغيرات البيئية**





**7.Beneficial traits can be adapted _______ to allow species to survive environmental change and increase in population.**

يمكن تكييف السمات المفيدة _______ للسماح للأنواع بالبقاء على قيد الحياة في ظل التغير البيئي وزيادة عدد السكان.

A. over time and generations عبر الزمن والأجيال

B. quickly over one generation بسرعة على مدى جيل واحد

C. over time as the trait is learned and taught to others

مع مرور الوقت حيث يتم تعلم السمة وتعليمها للآخرين

D. suddenly when a species decides to change فجأة عندما يقرر نوع ما التغيير

**8. Biological adaptations primarily include changes that _____________________ in an environment.**

التكيفات البيولوجية تشمل في المقام الأول التغييرات التي ____________________ في البيئة

A. account for adversity حساب الشدائد
B. advance life span تقدم العمر الافتراضي
C. enhance survival تعزيز البقاء على قيد الحياة
D. decrease reproduction تقليل التكاثر




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## اسئله بنك المعرفه الدرس الثانى

## Adaptations and Survival: Practice Assessment 2

1**.______ is a process by which species change over many generations through mutation.**

E. Pollination
F. Photosynthesis
G. Reproduction
H. Adaptation

**2-Adaptation is a process by which species change over many generations through ______.**

A. mutation

B. extinction

C. decomposition

D. digestion

**3. The shape and size of a bird's beak had changed from the parent to the offspring.**

**This change in the physical beak trait is called ______.**

A. a mutation

B.an adaptation

C. a preservation

D. a niche

**4.______ is a change of traits, such as features and behaviors.**

A. Habitat

B. Adaptation

C. Mutation

D. Niche



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**5.Mutations over time and generations can improve ______.**

A.an organism's survival

B. air pollution

C. a species' survival

D. water pollution

**6.Organisms that cannot ______ will die off.**

A. recycle

B. produce their own food

C. decompose

**D**. adapt to environmental change

**7.Beneficial traits can be adapted ______ to allow species to survive environmental change and increase in population.**

A. over time and generations

B. quickly over one generation

C. over time as the trait is learned and taught to others

D. suddenly when a species decides to change

**8. Biological adaptations primarily include changes that _________________ in an environment.**

E. account for adversity
F. advance life span
G. enhance survival
H. decrease reproduction






# Unit 1 Concept 2 Exam 1

## Senses at Work: Summative Assessment, Exam1

**1.Read the following scenario. In which part of the event is your nervous system receiving a message?**

اقرأ السيناريو التالي. في أي جزء من الحدث يتلقى جهازك العصبي رسالة؟ -

**A. You touch your finger to a cactus thorn. أ. تلمس إصبعك بشوكة صبار.**

B. You pull your hand away. ب. اسحب يدك بعيدًا.

C. You yell "Ouch!" ج. تصرخ "أوتش"

D. Your finger begins to bleed. . يبدأ إصبعك في النزيف.

**2.What are the two organs that make up the central nervous system?**

ما الجهازان اللذان يتألف منهما الجهاز العصبي المركزي؟ -

A. the brain's cerebellum and the spine أ- المخيخ في المخ والعمود الفقري

B. the sympathetic and parasympathetic nervous system ب- الجهاز العصبي السمبثاوي والباراسمبثاوي

C. the sensory and motor system ج- النظام الحسي والحركي

**D. the spinal cord and the brain د- النخاع الشوكي والدماغ**

**3.Amanda suddenly woke up and smelled something burning. She crept down the stairs to see what was happening. She found her parents reading and sitting by the fire place, which was burning wood. Why did Amanda wake up?**

استيقظ أماندا فجأة وشممت رائحة شيء يحترق. تسللت إلى أسفل الدرج لترى ما كان يحدث. وجدت والديها يقرآن ويجلسان بجوار المدفأة المشتعلة بالحطب. لماذا استيقظت أماندا؟

A. The smell of the fire sent a signal through her blood cells to her brain and she woke up. رائحة النار أرسلت إشارة عبر خلايا دمها إلى دماغها واستيقظت.

**B. The smell of the fire sent a signal through her nerves to her brain and she woke up. ب. رائحة النار أرسلت إشارة عبر أعصابها إلى دماغها واستيقظت.**

C. Amanda's nose was stuffy from a cold and she could not sleep.

D. Amanda was too cold upstairs to sleep. أماندا كان باردا جدا في الطابق العلوي من النوم.

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**4.Eyes squint instinctively to avoid light when bright light falls on them suddenly. Which two systems are involved in this process?**

تحوّل العيون بشكل غريزي لتجنب الضوء عندما يسقط عليها ضوء ساطع فجأة. أي نظامين مشتركين في هذه العملية؟

**A. nervous and muscular العصبية والعضلية**

B. nervous and respiratory ب- الجهاز العصبي والجهاز التنفسي

C. circulatory and muscular ج- الدورة الدموية والعضلية

D. circulatory and respiratory د- الدورة الدموية والجهاز التنفسي

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**5.On a hot summer day, Jack left the pool and began to climb a ladder to his tree house. He hurt his toe by bumping it on the ladder as he climbed into the tree house. How did Jack know that he had hurt his toe?**

في يوم صيفي حار ، غادر جاك المسبح وبدأ في تسلق سلم إلى منزل الشجرة الخاص به. لقد جرح إصبع قدمه عندما صدمه على السلم بينما كان يتسلق إلى منزل الشجرة. كيف عرف جاك أنه أصيب بإصبع قدمه؟

**A. The nerves in his hurt toe sent a signal through his body to his brain.**

.الأعصاب في إصبع قدمه المصابة أرسلت إشارة عبر جسده إلى دماغه

B. The blood cells in his toe sent a signal through his body to his brain.

.ب. خلايا الدم في إصبع قدمه ترسل إشارة عبر جسده إلى دماغه

C. Jack's toes became very cold and numb. .اصبحت اصابع قدم جاك باردة جدا وخدرة

D. Jack's toe became smaller than before he had bumped it on the ladder.

أصبح إصبع جاك أصغر مما كان عليه قبل أن اصطدم به على السلم





**6.Peter stopped suddenly on his bike because he heard a car speed by him. Which system received the external signal of hearing that enabled Peter to respond by stopping his bike?**

توقف بيتر فجأة على دراجته النارية لأنه سمع صوت سيارة تسرع من قبله. أي نظام تلقى إشارة السمع الخارجية التي مكنت بيتر من الاستجابة بإيقاف دراجته؟

A. circulatory system أ. الدورة الدموية

B. excretory system نظام الإخراج

C. muscular system . الجهاز العضلي

**D. nervous system د- الجهاز العصبى**

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**7.How is your nervous system like a pizza delivery restaurant?**

كيف هو نظامك العصبي مثل مطعم توصيل البيتزا؟

A. It needs fuel to run efficiently. يحتاج إلى وقود ليعمل بكفاءة.

**B. Orders are sent out based upon the different messages that come in.**

يتم إرسال الطلبات بناءً على الرسائل المختلفة الواردة.

C. It can take a long time for messages to be delivered and sent out.

ج. يمكن أن يستغرق تسليم الرسائل وإرسالها وقتًا طويلاً.

D. Not everyone sends his or her orders to the same location.

ليس كل شخص يرسل أوامره إلى نفس الموقع .





8. Complete the paragraph to explain how our body works together to process sensory information.

The different parts of our [nervous] system work together to receive, send, and react to information. The senses [organs] receive information from the environment. For example, a dog will receive sound waves through its ears. Then the brain sends a [message] to different parts of the body so that the dog knows how to [respond] to the information received. If it is a threatening sound, the brain may tell the dog to bark. If it is the sound of the dog's owner, the brain might tell the dog to wag his tail.

8.

أكمل الفقرة لشرح كيفية عمل أجسامنا معًا لمعالجة المعلومات الحسية

الأجزاء المختلفة من **الاعصاب**

يعمل النظام معًا لتلقي المعلومات وإرسالها والرد عليها. الحواس **الأعضاء**

تلقي المعلومات من البيئة. على سبيل المثال ، يتلقى الكلب موجات صوتية عبر أذنيه. ثم يرسل المخ ملف

**رسالة**

إلى أجزاء مختلفة من الجسم حتى يعرف الكلب كيف يفعل ذلك

**رد**

للمعلومات الواردة. إذا كان صوتًا مهددًا ، فقد يطلب المخ من الكلب أن ينبح. إذا كان صوت صاحب الكلب ، فقد يطلب المخ من الكلب أن يهز ذيله.

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9. Match each sensory organ to the type of information that the organ's receptors collect.

| Sensory Organ | Sensory Information |
|---|---|
| Hand | light coming through an open window<br>ضوء قادم من نافذة مفتوحة |
| Eyes | a skunk's foul scent<br>رائحة الظربان الكريهة |
| Tongue | heat from a hot stove<br>الحرارة من موقد ساخن |
| Ears | the bitter taste of a lemon<br>الطعم المر من ليمون |
| Nose | a loud noise blasting from car speakers<br>انفجار ضوضاء عالية من سماعات السيارة |

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10. Decide whether the statements about the nervous system are true or false. قرر ما إذا كانت العبارات المتعلقة بالجهاز العصبي صحيحة أم خاطئة.

| True | False |
|---|---|
| تتلقى الأعصاب المعلومات باستمرار من الحواس وترسلها إلى الدماغ ، حتى أثناء نوم الشخص . | عندما يخطو شخص على صخرة حادة بقدمه العارية ، فإن دماغه هو آخر عضو يتفاعل مع المعلومات . |
| Nerves are constantly receiving information from the senses and sending them to the brain, even while a person is sleeping. | When a person steps on a sharp rock with their bare foot, their brain is the last organ to react to the information. |
| If someone were to burn their hand, the brain can store that memory so that it can tell them to move his or her hand the next time a hot surface is nearby. | Each sense organ in the nervous system works on its own, independently from the brain, when the brain is busy doing other jobs for the body. |
| إذا قام شخص ما بحرق يده ، فيمكن للدماغ تخزين هذه الذاكرة حتى يتمكن من إخباره بتحريك يده في المرة التالية التي يكون فيها سطح ساخن قريبًا . | يعمل كل عضو حاسة في الجهاز العصبي من تلقاء نفسه ، بشكل مستقل عن الدماغ ، عندما يكون الدماغ مشغولاً بأداء وظائف أخرى للجسم . |

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11.

☑

Students in a classroom hear a tornado siren go off. Which of the following could be ways in which they respond? Read the selections and choose the correct response.

يسمع الطلاب في أحد الفصول صفارات الإنذار من الإعصار. أي مما يلي يمكن أن يكون طرقًا للاستجابة؟ اقرأ التحديدات واختر الإجابة الصحيحة.

**The ears sense a loud sound causing the brain to send a message for their hands to cover the ears.**

تشعر الأذنين بصوت عالٍ يدفع الدماغ إلى إرسال رسالة إلى أيديهم لتغطية الأذنين.

Their noses sense something that smells bad causing the brain to send a message to students' hands to pinch their noses shut.

تشعر أنوفهم بشيء تنبعث منه رائحة كريهة مما يدفع الدماغ إلى إرسال رسالة إلى أيدي الطلاب لإغلاق أنوفهم.

**The siren sends a message to the students' brains that causes them to remember a scary tornado event last year. It also signals their brain to send a message for the students to yell in alarm.**

ترسل صفارة الإنذار رسالة إلى أدمغة الطلاب تجعلهم يتذكرون حدث إعصار مخيف العام الماضي. كما أنه يشير إلى دماغهم لإرسال رسالة للطلاب للصراخ في حالة تأهب.

**The ears pick up noise and the brain tells the legs to jump out of the seat.**

تلتقط الأذنان الضوضاء ويخبر المخ الساقين بالقفز من المقعد.

Students sense sound with their ears and the brain sends a message to the hands to rub their elbows in pain.





.فرك مرفقيهم من الألم  يستشعر الطلاب الصوت بأذنيهم ويرسل الدماغ رسالة إلى اليدين

12.

☐

Place the sentences in order of how the information is processed by the brain.

- *1.*

- Information from the environment is received by a sense organ.
- .المعلومات من البيئة التي يتم تلقيها من قبل جهاز الإحساس

- 2.

- Nerves in the body connect the sense organs to the brain.
- .الأعصاب في الجسم تربط أعضاء الحس بالدماغ

- 3.

- The signals travel as electrical pulses from the organ to the nerves in the brain.
- .تنتقل الإشارات كنبضات كهربائية من العضو إلى الأعصاب في الدماغ

- 4.

- The brain determines what to do with the information.
- .يحدد الدماغ ما يجب فعله بالمعلومات

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## Unit 1 Concept 2 Exam 1

## Senses at Work: Summative Assessment, Exam1

**1.Read the following scenario. In which part of the event is your nervous system receiving a message?**

A. You touch your finger to a cactus thorn.

B. You pull your hand away..

C. You yell “Ouch!”

D. Your finger begins to bleed

### 2.What are the two organs that make up the central nervous system?

A. the brain's cerebellum and the spine

B. the sympathetic and parasympathetic nervous system

C. the sensory and motor system

D. the spinal cord and the brain

**3.Amanda suddenly woke up and smelled something burning. She crept down the stairs to see what was happening. She found her parents reading and sitting by the fire place, which was burning wood. Why did Amanda wake up?**

A. The smell of the fire sent a signal through her blood cells to her brain and she woke up.

B. The smell of the fire sent a signal through her nerves to her brain and she woke up.

C. Amanda's nose was stuffy from a cold and she could not sleep.

D. Amanda was too cold upstairs to sleep.

### 4.Eyes squint instinctively to avoid light when bright light falls on them suddenly. Which two systems are involved in this process?

A. nervous and muscular

B. nervous and respiratory

C. circulatory and muscular

D. circulatory and respiratory

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**5.On a hot summer day, Jack left the pool and began to climb a ladder to his tree house. He hurt his toe by bumping it on the ladder as he climbed into the tree house. How did Jack know that he had hurt his toe?**

A. The nerves in his hurt toe sent a signal through his body to his brain.

B. The blood cells in his toe sent a signal through his body to his brain.

C. Jack's toes became very cold and numb..

D. Jack's toe became smaller than before he had bumped it on the ladder.

**6.Peter stopped suddenly on his bike because he heard a car speed by him. Which system received the external signal of hearing that enabled Peter to respond by stopping his bike?**

A. circulatory system

B. excretory system

C. muscular system .

D. nervous system

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**7.How is your nervous system like a pizza delivery restaurant?**

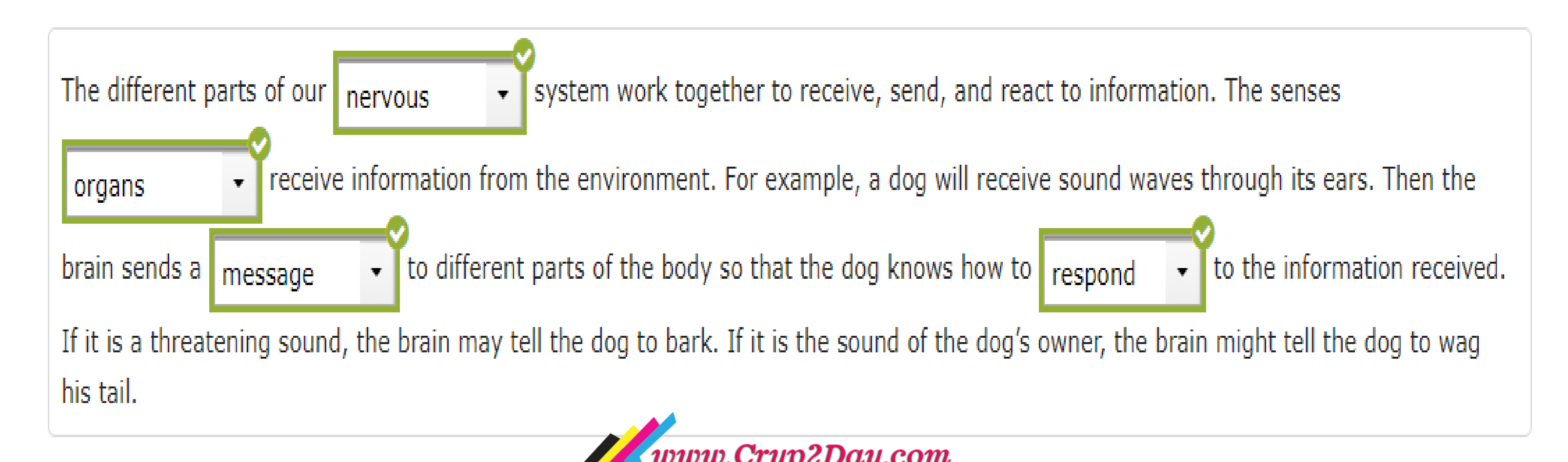
A. It needs fuel to run efficiently.

B. Orders are sent out based upon the different messages that come in.

C. It can take a long time for messages to be delivered and sent out.

D. Not everyone sends his or her orders to the same location.

---



8. Complete the paragraph to explain how our body works together to process sensory information.

The different parts of our [nervous] system work together to receive, send, and react to information. The senses [organs] receive information from the environment. For example, a dog will receive sound waves through its ears. Then the brain sends a [message] to different parts of the body so that the dog knows how to [respond] to the information received. If it is a threatening sound, the brain may tell the dog to bark. If it is the sound of the dog's owner, the brain might tell the dog to wag his tail.

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9. Match each sensory organ to the type of information that the organ's receptors collect.

| Sensory Organ | Sensory Information |
| --- | --- |
| Hand | light coming through an open window |
| Eyes | a skunk's foul scent |
| Tongue | heat from a hot stove |
| Ears | the bitter taste of a lemon |
| Nose | a loud noise blasting from car speakers |

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10. Decide whether the statements about the nervous system are true or false.

| | |
| --- | --- |
| Nerves are constantly receiving information from the senses and sending them to the brain, even while a person is sleeping. | When a person steps on a sharp rock with their bare foot, their brain is the last organ to react to the information. |
| Each sense organ in the nervous system works on its own, independently from the brain, when the brain is busy doing other jobs for the body. | If someone were to burn their hand, the brain can store that memory so that it can tell them to move his or her hand the next time a hot surface is nearby. |

| True | False |
| --- | --- |
| | |





11.

☑

**Students in a classroom hear a tornado siren go off. Which of the following could be ways in which they respond? Read the selections and choose the correct response.**

The ears sense a loud sound causing the brain to send a message for their hands to cover the ears.

Their noses sense something that smells bad causing the brain to send a message to students' hands to pinch their noses shut.

The siren sends a message to the students' brains that causes them to remember a scary tornado event last year. It also signals their brain to send a message for the students to yell in alarm.

The ears pick up noise and the brain tells the legs to jump out of the seat.

Students sense sound with their ears and the brain sends a message to the hands to rub their elbows in pain.

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12. Place the sentences in order of how the information is processed by the brain.

| Sentences | Order |
| --- | --- |
| Nerves in the body connect the sense organs to the brain. | 1. |
| Information from the environment is received by a sense organ. | 2. |
| The brain determines what to do with the information. | 3. |
| The signals travel as electrical pulses from the organ to the nerves in the brain. | 4. |






## Unit 1 Concept 2 Exam 2 أسئلة بنك المعرفة

## Senses at Work: Practice Assessment no (2 )

Dr Mahmoud El Esseily

**1.The _____ system includes the brain and the spinal cord.**

يشتمل نظام _____ على الدماغ والنخاع الشوكي.

A. circulatory أ. الدورة الدموية

**B. nervous العصبية**

C. muscular العضلي

D. skeletal الهيكل العظمي

**2.Tamina is creating a model to show the path that information travels in the nervous system. She has drawn sensory receptors. What should she draw next?**

تقوم تامينا بإنشاء نموذج لإظهار المسار الذي تنتقل إليه المعلومات في الجهاز العصبي. لقد استمدت المستقبلات الحسية. ما الذي يجب أن ترسمه بعد ذلك؟

A. She should draw a nerve cell in the brain. **يجب أن ترسم خلية عصبية في الدماغ.**

**B. She should draw nerves extending from the sensory receptors to the spinal cord.** **أن ترسم الأعصاب الممتدة من المستقبلات الحسية إلى النخاع الشوكي**

C. She should connect the sensory receptors to the muscles.

يجب أن تربط المستقبلات الحسية بالعضلات.

D. She should label the drawing with the words "output."

يجب تسمية الرسم بالكلمات "الإخراج"

**3.Kyla says that the role of the nervous system in the body is to "gather information from the environment." Evaluate her statement.**

تقول كايلا أن دور الجهاز العصبي في الجسم هو "جمع المعلومات من البيئة". قيم بيانها.

A. Kyla's statement is correct and complete. بيان Kyla صحيح وكامل

**B. Kyla should add that the nervous system controls our organs and body systems, allowing the body to respond to changes in the environment.**

**يجب أن يضيف ب. كايلا أن الجهاز العصبي يتحكم في أعضائنا وأنظمة أجسامنا ، مما يسمح للجسم بالاستجابة للتغيرات في البيئة.**

C. Kyla should add that the main organ of the nervous system is the skin.

يجب أن يضيف أن العضو الرئيسي للجهاز العصبي هو الجلد

D. Kyla should change her statement to say that the role of the nervous system is to gather information from the body, not from the environment.

يجب أن تغير بيانها لتقول إن دور الجهاز العصبي هو جمع المعلومات من الجسم ، وليس من البيئة.

Dr Mahmoud El Essely

**4.Four students write what they know about sense receptors. Evaluate each student's response. Who is not correct?**

يكتب أربعة طلاب ما يعرفونه عن مستقبلات الحس. قم بتقييم استجابة كل طالب. من غير الصحيح؟

A. Julia says sense organs like the ear, mouth, and skin all have sense receptors. **جوليا تقول أن أعضاء الحس مثل الأذن والفم والجلد لها مستقبلات حسية.**

B. Sam says sense receptors collect information from our environments.

**يقول سام إن المستقبلات الحسية تجمع المعلومات من بيئاتنا.**

**C. Miriam says all sense organs are the same.** تقول ميريام أن جميع أعضاء الحواس متشابهة.

D. Juan says sense organs are connected to nerves.





يقول خوان إن أعضاء الحس مرتبطة بالأعصاب.

**5.Sandy was walking toward her home. She saw her mother waving to her and began to run home to greet her. The human body system that enabled Sandy to receive the external signal to see that her mother was home is the _______ system.**

كانت ساندي تسير نحو منزلها. رأت والدتها تلوح لها وبدأت تهرع إلى المنزل لتحييها. نظام جسم الإنسان الذي مكّن ساندي من استقبال الإشارة الخارجية لمعرفة أن والدتها كانت في المنزل هو نظام _______.

**A. nervous العصبية**

B. muscular

C. circulatory الدورة الدموية

D. respiratory الجهاز التنفسي

**6.Why is the brain important to the nervous system?**

ما أهمية الدماغ للجهاز العصبي؟

A. It is the largest organ in the body. هو أكبر عضو في الجسم.

**B. It processes all the information that enters the body.**

ب. يعالج جميع المعلومات التي تدخل الجسم.

C. It collects all the sensory stimuli from the environment.

ج. يجمع كل المحفزات الحسية من البيئة.

D. It is responsible for transporting messages around the body.

وهي مسؤولة عن نقل الرسائل حول الجسم.

Dr Mahmoud El Esselly





**7.Which best explains the role of a sense receptor?**

ما هو أفضل تفسير لدور المستقبلات الحسية؟

A. The sense receptor sends signals to the muscles.

المستقبلات الحسية ترسل إشارات إلى العضلات.

B. The sense receptor processes information received from the sense organ. ب. تعالج مستقبلات الحس المعلومات الواردة من عضو الحس.

C. The sense receptor determines which sensory information to gather and which to ignore. تحدد مستقبلات الحس المعلومات الحسية التي يجب جمعها وأيها يجب تجاهلها.

**D. The sense receptor changes the sensory information into electrical impulses and sends it to the nerves.**

د- يحول مستقبل الحس المعلومات الحسية إلى نبضات كهربائية ويرسلها إلى الأعصاب.

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**8.Which best describes what happens after the brain receives and processes sensory information?**

ما أفضل وصف لما يحدث بعد تلقي الدماغ للمعلومات الحسية ومعالجتها؟

**A. The brain decides how the body should respond to the information.**

يقرر الدماغ كيف يجب أن يستجيب الجسم للمعلومات :.

B. The brain deletes the information. . الدماغ يحذف المعلومات.

C. The brain commands the sensory receptors to respond.

ج- يأمر الدماغ المستقبلات الحسية بالاستجابة.

D. The brain converts the electrical impulses into sensory stimuli.

د- يحول الدماغ النبضات الكهربائية إلى منبهات حسية





## Unit 1 Concept 2 Exam 2 أسئلة بنك المعرفة

## Senses at Work: Practice Assessment no (2 )

**1.The _____ system includes the brain and the spinal cord.**

A. circulatory

B. nervous

C. muscular

D. skeletal

**2.Tamina is creating a model to show the path that information travels in the nervous system. She has drawn sensory receptors. What should she draw next?**

A. She should draw a nerve cell in the brain. .

B. She should draw nerves extending from the sensory receptors to the spinal cord.

C. She should connect the sensory receptors to the muscles.

D. She should label the drawing with the words "output."

**3.Kyla says that the role of the nervous system in the body is to "gather information from the environment." Evaluate her statement.**

A. Kyla's statement is correct and complete.

B. Kyla should add that the nervous system controls our organs and body systems, allowing the body to respond to changes in the environment.

C. Kyla should add that the main organ of the nervous system is the skin.

D. Kyla should change her statement to say that the role of the nervous system is to gather information from the body, not from the environment.

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**4.Four students write what they know about sense receptors. Evaluate each student's response. Who is not correct?**

A. Julia says sense organs like the ear, mouth, and skin all have sense receptors..

B. Sam says sense receptors collect information from our environments.

C. Miriam says all sense organs are the same..

D. Juan says sense organs are connected to nerves.

**5.Sandy was walking toward her home. She saw her mother waving to her and began to run home to greet her. The human body system that enabled Sandy to receive the external signal to see that her mother was home is the ______ system.**

A. nervous

B. muscular

C. circulatory

D. respiratory

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## 6.Why is the brain important to the nervous system?

A. It is the largest organ in the body. .

B. It processes all the information that enters the body.

C. It collects all the sensory stimuli from the environment.

D. It is responsible for transporting messages around the body.

## 7.Which best explains the role of a sense receptor?

A. The sense receptor sends signals to the muscles.

B. The sense receptor processes information received from the sense organ..

C. The sense receptor determines which sensory information to gather and which to ignore..

D. The sense receptor changes the sensory information into electrical impulses and sends it to the nerves.





**8. Which best describes what happens after the brain receives and processes sensory information?**

A. The brain decides how the body should respond to the information.

B. The brain deletes the information

C. The brain commands the sensory receptors to respond.

D. The brain converts the electrical impulses into sensory stimuli.

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# Unit 1 concept 3 Exam 1 اسئلة بنك المعرفة

## Light and Sight: Summative Assessment (1)

**1.Light ___________.**

A. takes up space
B. is made up of matter
**C. is a form of energy**
D. has a magnetic force

**2.Which type of energy does the sun provide Earth?**

**A. light**
B. gravity
C. chemical
D. mechanical

**3.Which of the following is a source of light?**

A. the moon
B. our eyes
**C. fire**
D. a mirror

**4.What property of light helps you see yourself in a mirror?**

A. refraction
**B. reflection**
C. absorption
D. relativity

**5.Which statement best explains why you can see yourself when you look at a mirror?**

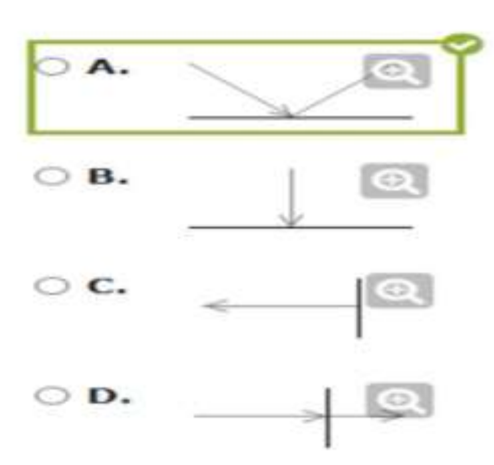
A. Light is refracted as it passes through the mirror.
**B. Light is reflected, bouncing off the mirror.**
C. Light is refracted, bouncing off the mirror.
D. Light is reflected as it passes through the mirror.



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## 6.The arrows in each answer choice represent light rays. Which drawing shows how light is reflected by a mirror?

تمثل الأسهم فى كل اختيار إجابة أشعة الضوء. أي رسم يوضح كيف ينعكس الضوء بواسطة المرآة؟




**7.What type of surface scatters light unevenly?** أي نوع من الأسطح تشتت الضوء بشكل غير متساو؟

A. shiny
**B. rough**
C. smooth
D. transparent

**8.What word is used to describe light as it strikes a smooth, shiny surface and bounces off?**

ما هي الكلمة المستخدمة لوصف الضوء عندما يضرب سطحًا أملسًا ولامعًا وينعكس؟

A. shadow
B. energy
**C. reflection**
D. wave length

**9.What happens to light when it hits a rough surface?** ماذا يحدث للضوء عندما يصطدم بسطح خشن

**A. scattering**
B. reflection
C. absorption
D. refraction

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10.Rebecca visited a lake surrounded by mountains. She observed the image of the mountains on the surface of the lake's water.

زارت ’ريبيكا’ بحيرة محاطة بالجبال. لاحظت صورة الجبال على سطح مياه البحيرة.



**Rebecca built a diorama to model what she saw. She used a postcard of a mountain scene to represent the mountains and a small mirror to represent the lake. Which is the best explanation of why her model represents what she saw?**

قامت "ريبيكا" ببناء ماكت ثلاثى الابعاد لتكون نموذجًا لما رأت. استخدمت بطاقة بريدية لمشهد جبلي لتمثيل الجبال ومرآة صغيرة لتمثيل البحيرة. ما هو أفضل تفسير لكون نموذجها يمثل ما رأته؟

A. The mirror refracts light onto the image of the mountain on the postcard
B. The mirror reflects light onto the image of the mountain on the postcard.
C. The image of the mountain on the postcard is refracted by the mirror.
D. **The image of the mountain on the postcard is reflected by the mirror.**

تعكس المرآة صورة الجبل الموجودة على البطاقة البريدية.

**11.Which set of objects below would all reflect light well?**

A. aluminum foil, brick wall, mirror
B. metal spoon, tree trunk, aluminum foil
C. mirror, metal spoon, brick wall
D. **metal spoon, mirror, aluminum foil**

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# Unit 1 concept 3 Exam 1 اسئلة بنك المعرفة

## Light and Sight: Summative Assessment (1)

**1.Light ___________.**

A. takes up space
B. is made up of matter
C. is a form of energy
D. has a magnetic force

**2.Which type of energy does the sun provide Earth?**

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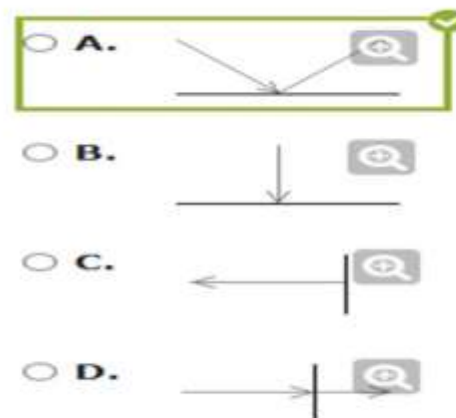
A. refraction
B. reflection
C. absorption
D. relativity

**5.Which statement best explains why you can see yourself when you look at a mirror?**

A. Light is refracted as it passes through the mirror.
B. Light is reflected, bouncing off the mirror.
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**6.The arrows in each answer choice represent light rays. Which drawing shows how light is reflected by a mirror?**




**7.What type of surface scatters light unevenly?**

A. shiny
B. rough
C. smooth
D. transparent

**8.What word is used to describe light as it strikes a smooth, shiny surface and bounces off?**

A. shadow
B. energy
C. reflection
D. wave length

**9.What happens to light when it hits a rough surface?**

A. scattering
B. reflection
C. absorption
D. refraction

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10.Rebecca visited a lake surrounded by mountains. She observed the image of the mountains on the surface of the lake's water.



**<u>Rebecca built a diorama to model what she saw. She used a postcard of a mountain scene to represent the mountains and a small mirror to represent the lake. Which is the best explanation of why her model represents what she saw?</u>**

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## اسئلة بنك المعرفة unit 1 - Concept 3 - Exam 2

## Light and Sight: Practice Assessment

### 1.As the amplitude of a wave decreases ___ كلما قل اتساع الموجة

A. the temperature of the light increases.
B. the temperature of the light decreases.
C. the color of the light becomes brighter.
**D. the light becomes dimmer. يصبح الضوء باهتًا**

### 2.Which of the following is a form of energy?

A. air
**B. light**
C. matter
D. magnets

### 3.Which of the following is part of the electromagnetic spectrum?

أي مما يلي هو جزء من الطيف الكهرومغناطيسي

**A. light waves**
B. surface waves
C. earthquake waves
D. gravitational waves

### 4.Light cannot pass through all objects. Which of these would let light pass through it? لا يمكن للضوء أن يمر عبر كل الأشياء. أي من هؤلاء سيسمح للضوء بالمرور من خلاله

A. a rock
B. wood
**C. vacuum الفراغ**
D. the moon

### 5.Which type of energy can travel through a vacuum? أي نوع من الطاقة يمكن أن ينتقل عبر الفراغ

**A. light**
B. sound
C. chemical
D. mechanical

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**6.The smooth, flat, shiny surface of a mirror ___________ light waves evenly.**

A. absorbs
B. refracts
C. **reflects**
D. is transparent to

**7.When light bounces off a mirror it is _________.**

A. absorbed
B. **reflected**
C. corrected
D. refracted

**8.The image reflected from a ___________ surface may be larger, smaller, or upside down.**

A. flat
B. shiny
C. **curved**
D. rough







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## اسئلة بنك المعرفة unit 1 - Concept 3 - Exam 2

## Light and Sight: Practice Assessment

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## اسئلة بنك المعرفة / Summative Assessment

## Unit 2 – Concept 1- Exam 1: Starting and Stopping

**1-Imagine you are riding in a car down the highway. Select the objects that you can look at to let you know the car is in motion.**

a- The baseball sitting in the seat next to you.
b- The sign on the highway telling you the speed limit.
c- The can of soda in the cup holder.
d- The light pole you see out the window.
e- The parked car that you pass on the road.

**2.Select two sentences that describe the exertion of force on a wheelbarrow.**

- Jack is going to use a wheelbarrow to haul rocks from one area to another.
- The wheelbarrow is sitting at one end of the path.
- Jack loads rocks from a pile nearby into the wheelbarrow.
- Once the wheelbarrow is full of rocks, they are ready to be moved to the opposite end of the path.
- Jack lifts the wheelbarrow's handles and pushes it along the path.
- After arriving at the destination, he prepares to dump the rocks.
- He pushes the handles of the wheelbarrow upward so that the rocks fall out of the front.

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**3-Choose the correct words to complete the sentences below.**

A force can cause several different things to happen to an object. A force can cause objects to **(Move – unbalanced - only one – balanced - opposite)**. This can occur when two forces acting on an object are **(Move – unbalanced - only one – balanced - opposite)** . It can also happen if there is **(Move – unbalanced - only one – balanced - opposite)** force. When there are two **(Move – unbalanced - only one – balanced - opposite)** forces acting in **(Move – unbalanced - only one – balanced - opposite)** directions, the object will remain still.

**4.The class is playing tug of war during recess. There are 10 students on either side of the rope. What would explain that no one has moved?**

A. One team has more force than the other.

B. One team has half the force of the other.

C. The teams have equal and opposite forces.

D. The teams have unequal and opposite forces.

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5. Decide if each statement below describes a change in position, a change in both position and direction, or neither.

| | | |
|---|---|---|
| A soccer ball is kicked. | A glass sits on a table. | A rocket is shot up into the air then falls to the ground. |
| A moving train turns north. | A bus travels 50 miles in a straight line. | A sailboat moving forward is pushed left by a gust of wind. |

| Change in position | Change in position and direction | Neither |
|---|---|---|
| | | |




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6. Decide if the motion of the objects below will be stopped by either the force of friction or by a collision with another object.

| | |
|---|---|
| A soccer ball rolls across a field. | A car rolls into a wall. |
| A pitcher throws a baseball to the catcher. | A football player is tackled during a game. |
| A girl on a swing eventually stops swinging. | |

| Force of Friction | Collision |
|---|---|
| | |

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**7.Which of the following indicates motion?**

A. bicycle

B. sunlight

C. running water

D. guitar string

**8.Choose the two sentences about force that are true.**

a- A force always causes movement.
b- A force is a push or a pull.
c- Two forces must be equal.
d- Two forces can be unbalanced.
e- Forces are only created by people.
f- A force always leads to work.





**9.A toy car is sitting still in the driveway. Lee kicks the car and it spins moving sideways. The car is considered in motion because _______.**

A. the car was kicked

B. the car did a wheelie

C. the car has four wheels

D. the position of the car changed

**10.Maria is pushing a big box. David comes to help her.**

**How does this change the force and motion of the box?**

A. It does not change the force or the motion.

B. It increases the force and decreases the motion.

C. It increases the force and increases the motion.

D. It decreases the force and increases the motion.

**11.Margarite notices that the position of her golf ball on the green has changed in comparison to the flagpole in the hole. This change is a result of ________________.**

A. motion of the flagpole

B. motion of the ball

C. speed of the ball

D. speed of the flagpole

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## اسئلة بنك المعرفة / Practice Assessment 2

## Unit 2 – Concept 1- Exam 2 : Starting and Stopping

INSTRUCTIONS: Check your understanding with this practice assessment.

1.What is needed for an object to start moving?

A. speed

B. force

C. matter

D. electricity

2.Andrea is playing soccer. When she is dribbling the ball she uses short, soft kicks. Each kick moves the ball a small distance. How does her kick change when she wants the ball to go a long distance quickly?

A. She kicks with more force.

B. She kicks with less force.

C. She kicks with the same force.

D. She uses a lot of short kicks.

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3.Ray raked the leaves into a pile. He came back ten minutes later and they were scattered by the wind.

How can the wind move objects?



A. It has force.

B. It has gravity.

C. It has magnetism.

D. It has a large mass.

4. Which form of energy involves an object going from one place to another place?

A. electricity

B. motion

C. light

D. nuclear

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5.Rob is ice skating. His older brother comes from behind and pushes him.

What happens to Rob's speed?

A. He stops.

B. He slows down.

C. He speeds up.

D. He continues at the same speed.







6. Which of the following situations describes the use of a force?

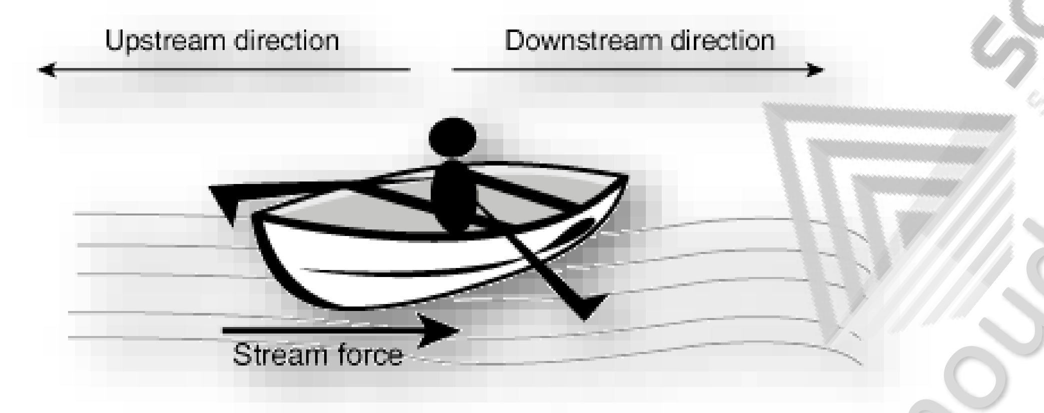
A. rotting wood

B. pushing a swing

C. seeing a rainbow

D. hearing the television

7.Look at the picture below to answer the question.




A boat can move upstream if it is rowed with a force ____.

A. less than stream force in an upstream direction

B. less than stream force in a downstream direction

C. greater than stream force in an upstream direction

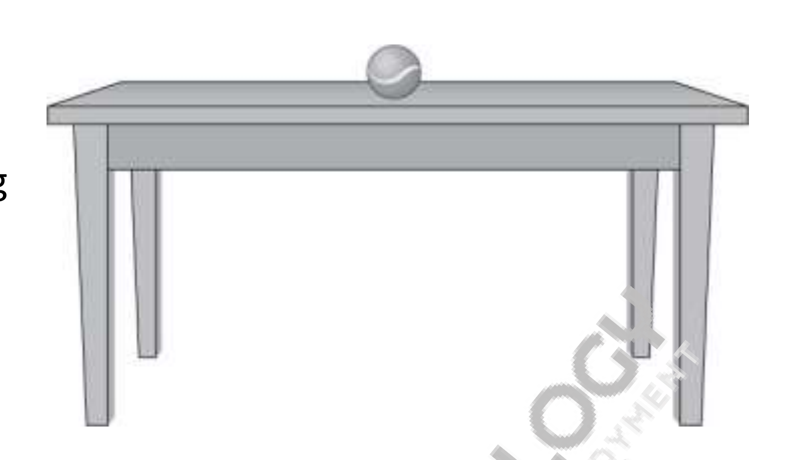
D. greater than stream force in a downstream direction

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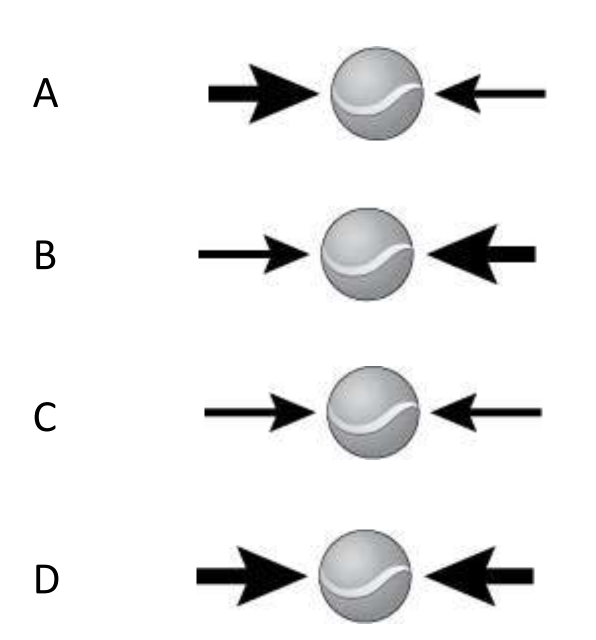




8. A ball is at rest on a table.



The arrows below represent forces.
The size of the arrow shows how strong the force is. Which of the following pairs of forces acting on the ball will cause the ball to move to the left?






## اسئلة بنك المعرفة - unit 2 - Concept 2- Exam 1

## Energy and Motion: Summative Assessment

**1. Your friend says the local hydroelectric plant creates electricity for your town. You know that this is not quite true because energy is not created or destroyed; it just changes from one form to another.**

Read the description about the hydroelectric plant. Select the sentences that will prove to your friend that energy is not being created, but mechanical energy is being converted into electrical energy.

| Hydroelectric plants often have reservoirs of water built up behind a dam. This is why you often see a lake by a hydroelectric plant. The plant releases some of the water through a tunnel. The moving water spins the blades of a giant turbine. The turbine is connected to a generator, and the energy is changed into electricity for the town to use. The electricity flows through wires into the townspeople's homes. |
|---|

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**2.When gasoline is burned, stored chemical energy is released in the form of ________ and light.**

A. fumes

B. carbon dioxide

C. sparks

D. heat





**3.You toss a ball into the air. The ball falls and then bounces back into the air. What happens to its energy?**

A. All of the energy remains unchanged.

B. More energy is created as the ball bounces.

C. Some energy is destroyed as the ball bounces.

D. Some energy changes to other forms of energy.

**4.What happens to energy when a log is on fire?**

A. The energy changes form, but no energy is lost.

B. The energy stays the same, but no energy is lost.

C. The log loses energy and must create more energy.

D. The fire burns until all energy has been lost.

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**5.There are lots of ways one form of energy can be transformed into another form.**

**Match the action with the correct energy transformation. Each action will match an energy transformation. Not all of the energy transformations will have a match to an action.**





| Action | Energy Transformation |
| --- | --- |
| Kate lifts a bowling ball to the top of a slide. | motion → sound |
| The ball begins to roll down the slide. | chemical → electrical |
| The rolling ball makes a lot of noise on the metal slide. | gravitational potential → motion |
| The ball strikes the head of a nail which gets pounded into a piece of wood, heating the nail and wood a little. | motion → gravitational potential |
| | motion → thermal |
| | motion → light |

**6.When you clap your hands, what happens to the energy of motion in your hands?**

A. It becomes sound energy and heat energy.

B. It becomes potential energy and solar energy.

C. Some is lost, and some becomes sound energy.

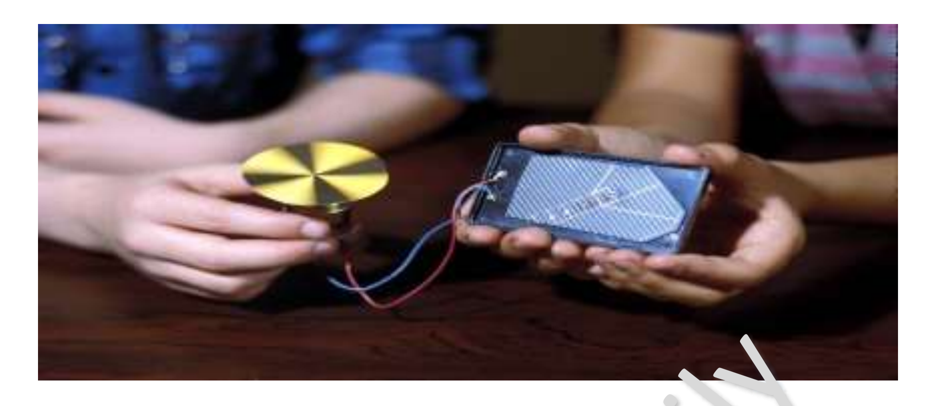
D. Some is lost, and some becomes chemical energy.

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7.



Samantha received a solar cell kit for her birthday. Samantha and her father followed the instructions in the kit. They got the solar cell to spin a small motor when they put the solar cell in sunlight. They had fun with this project and talked a lot about it together. When Samantha's mother came home from work that day, Samantha was eager to show her mother how the solar cell made the motor spin and to explain how it worked.

Help Samantha with her explanation by choosing the correct terms to complete the paragraph.

The light energy from the sun shines on the solar cell and is converted into electrical energy. This energy then flows through the wires to the motor where it is converted into mechanical energy. The spinning disk is evidence that energy from the sun has the ability to do work. All these changes mean that energy can come in different forms.

**8.Which ball has kinetic energy but not potential energy?**

A. a ball rolling down a ramp

B. a ball sitting on a high shelf

C. a ball bouncing up and down

D. a ball rolling on a flat sidewalk





**9.Which type of energy change occurs when a person rides a bike?**

A. heat energy changes to potential energy

B. chemical energy changes to kinetic energy

C. solar energy changes to chemical energy

D. kinetic energy changes to nuclear energy

**10.Which of the following can store energy?**

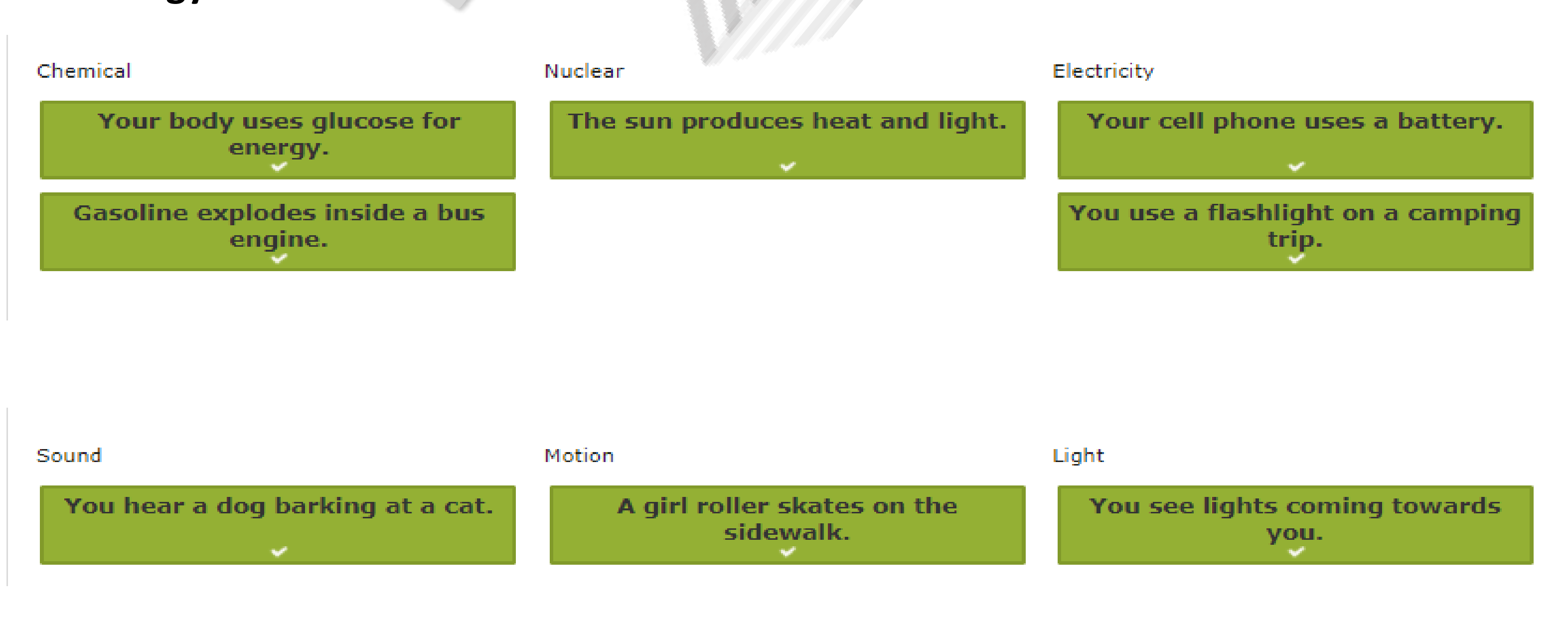
A. battery

B. wire

C. plastic

D. rubber

**11.Examples of how we use energy are listed below. Move each to the form of energy used.**











## اسئلة بنك المعرفة - unit 2 - Concept 2- Exam 2

## Energy and Motion: Practice Assessment

**1.In winter, some people turn on a gas fireplace to stay warm. Others use a generator or burn wood. Which, if any of these, are examples of using energy?**

A. All are examples of using energy because work is done in each case.

B. None are examples of using energy because work is not done in any case.

C. Only using the generator is an example of using energy because the generator does work to make electricity.

D. Only using a gas fireplace and burning wood are examples of using energy because gas and wood are fuels.

**2.Which of the following is able to store energy?**

A. a light switch

B. a light bulb

C. a wire

D. a battery

**3.How do our bodies get energy from the sun?**

A. We eat plants that contain energy stored from the sun during photosynthesis.

B. We absorb light energy from the sun and convert it into energy we can use during photosynthesis.

C. Heat energy from the sun warms our bodies to release stored energy from within our cells.

D. Heat energy from the sun is used to cook the foods that we eat.





**4.______ are forms of energy that are released when you burn a log.**

A. Heat and light

B. Chemical and physical

C. Motion and sound waves

D. Solar and electricity

**5. ______ can be converted into several different forms at the same time.**

A. Elements

B. Animals

C. Plants

D. Energy

**6.The stored ______ energy in a match can be released later.**

A. chemical

B. electrical

C. heat

D. light

**7. Which form of energy involves an object going from one place to another place?**

A. electricity

B. motion

C. light

D. nuclear

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**8. What type of energy does your body use to walk, run, and lift things?**

A. chemical energy

B. light energy

C. mechanical energy

D. nuclear energy

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# اسئلة بنك المعرفة - unit 2 - Concept 3- Exam 1

## Speed: Summative Assessment

**1.Read each situation below and decide if the speed of the object will increase or decrease, based on the force that is applied to it.**

| | |
|---|---|
| A sailboat gets pushed from behind by a gust of wind. ::: | A ball rolls into a wall. ::: |
| A soccer ball is kicked. ::: | A man pulls on the leash of a dog, as the dog tries to run away. ::: |
| A pitcher throws a baseball. ::: | |

| Speed Will Increase | Speed Will Decrease |
|---|---|
| | |

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**2.Read the statements below and select the ones that give enough information to determine the speed of the object.**

Select the objects by clicking on the tile. Clicking on a selected object will deselect it.

| | |
|---|---|
| A boy ran 2 miles on a cold and windy morning. | A car was able to travel 200 miles in 4 hours. |
| A plane was in the air for 6 hours and went higher than 25,000 feet. | A horse ran around the 2-kilometer racetrack in 2 minutes. |
| A boat traveled 4 miles across the lake when the temperature was 55°F. | |

**3.How is speed determined?**

A. distance traveled per unit of time

B. time per unit of distance traveled

C. mass per unit of distance traveled

D. volume per unit of mass

**4.Which formula can be used to determine speed?**

A. distance/time

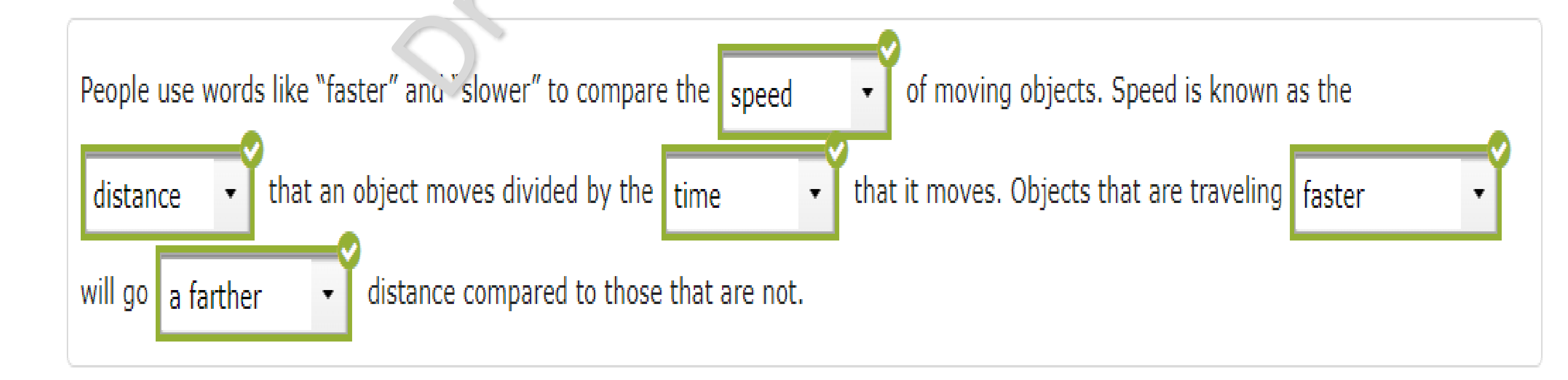
B. time/distance

C. mass/time

D. time/mass

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5. Choose the words or phrases to complete the sentences.




**6.Arla is going down the slide. Her mother gives her a push. How does the push affect her motion down the slide?**

A. The push decreases her speed.

B. The push increases her speed.

C. The push does not affect her speed.

D. The push stops her downward motion.





**7.What is calculated as the distance traveled per unit of time?**

A. work

B. speed

C. density

D. acceleration

**8-Select the sentence that correctly describes the relationship between speed and time.**

The faster the speed of an object, the shorter distance it can travel in a set time.

The faster the speed of an object, the less amount of time it takes to travel a set distance.

The speed of an object is equal to the amount of time it takes to travel a set distance.

The speed of an object increases as the amount of time traveled increases.

The speed of an object decreases as the time it takes to travel increases.

**9.Jewel was paddling a rubber raft in the pool. Pat swam in back of the raft and began pushing it. What was the effect on the raft's motion?**

A. It stopped.

B. It increased in speed.

C. It decreased in speed.

D. It moved at the same speed.

**10.A snail and a cat are in a race. The cat always travels faster than the snail. If both animals leave the starting line at the same time, which races will the cat always win?**

A. only races across long distances, not short distances

B. only races across short distances, not long distances

C. races of any length

D. no races





**11.Read the story below and select the sentences that give enough information to determine Ethan's speed.**

| When school ended, Ethan rode home on his skateboard. He increased his speed as he went down a hill. It took Ethan 15 minutes to get home, because he lives only one mile from his school. After he got home, he took his dog for a walk. Ethan walked the dog a total of two miles in 30 minutes. His dog walked slowly until it started to chase a squirrel. After Ethan got home, his mom drove him to basketball practice. It took 45 minutes to get to practice. After practice, Ethan's mom drove 10 miles home, but this time it only took them 20 minutes. |
|---|

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**12.Douglas is sliding down the hill on a piece of cardboard. His sister pushes him from behind. What effect does this have on his motion?**

A. He stops.

B. He speeds up.

C. He slows down.

D. His motion remains the same.



## اسئلة بنك المعرفة - unit 2 - Concept 3- Exam 2

## Speed: Practice Assessment

**1.Three friends race from the school to the playground. They leave the school at the same time. Which friend must be the fastest?**

A. the friend who arrives at the playground first

B. the friend who arrives at the playground last

C. the tallest friend

D. the oldest friend

**2.The rate at which an object changes its position over time is called __________.**

A. speed

B. velocity

C. acceleration

D. motion

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**3.Wally is driving a car at 90 kilometers per hour along a highway. A second car is ahead of Wally, but it gradually becomes closer. Soon Wally passes this car. What could be the speed of the second car?**

A. 0 kilometers per hour

B. 80 kilometers per hour

C. 90 kilometers per hour

D. 100 kilometers per hour





**4.At a bowling alley, a bowler tries to roll the ball at a fast speed. If she succeeds, she can predict that the ball will**

A. travel in a straighter path

B. knock down more pins

C. reach the pins in less time

D. reach the pins in a longer time

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**5.Read each situation below and decide if the speed of the object will increase or decrease, based on the force that is applied to it.**

| | |
|---|---|
| A sailboat gets pushed from behind by a gust of wind. ::: | A ball rolls into a wall. ::: |
| A soccer ball is kicked. ::: | A man pulls on the leash of a dog, as the dog tries to run away. ::: |
| A pitcher throws a baseball. ::: | |

| Speed Will Increase | Speed Will Decrease |
|---|---|
| | |

**6.Three swimmers race the length of a pool, and then back again. If Ted finishes third with a time of 1 minute and 40 seconds, what could be the time of the winning racer?**

A. 1 minute 33 seconds

B. 1 minute 40 seconds

C. 1 minute 45 seconds

D. 2 minutes exactly





**7.While ice skating, Lakeshia is pushed from behind by her friend Jamal.**

**What is the effect on her motion?**

A. It causes her to stop.

B. It decreases her speed.

C. It increases her speed.

D. It does not change her motion.

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**8.Choose the sentence that describes the car that will win the race.**

| Four friends are racing their remote-control cars. They all begin the race at the same starting line at the same time. John’s car travels 10 miles per hour during the entire race. Max’s car begins the race at 12 miles per hour and then slows to 10 miles per hour. Susan’s car remains traveling at 15 miles per hour throughout the race. Mary has a car that can travel up to 18 miles per hour but its top speed for the race was 14 miles per hour. |
|---|





## اسئلة بنك المعرفة - unit 2 - Concept 4

## Energy and Collisions: Practice Assessment

**1.If all of the following vehicles are traveling at 30 miles per hour on a straight road, which vehicle would be the hardest to stop?**

A. a bicycle

B. a compact car

C. a tractor trailer

D. a tractor trailer loaded with foam rubber

**2.A car is moving at 55 mph and hits a brick wall. Which of the following explains what will most likely happen to the car due to the force exerted back on it by the brick wall?**

A. Its speed will decrease.

B. Its speed will increase.

C. Its speed will not be affected.

D. It will climb the wall.

**3.Raul is pushing a grocery cart for his mother. The wheel hits a rock which sticks in the front of the wheel.**

**What effect does the rock have on his speed?**

A. It is a force with no effect on the speed.

B. It is a force which will decrease the speed.

C. It is a force which will increase the speed.

D. It is a force which will stop the speed.

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**4.Raul was learning to ride his bike. His father gave him a push from behind and let go. What caused his speed to pick up after the push?**

A. The force was increased.

B. The force was decreased.

C. The force was removed.

D. The force stayed the same.

**5.While ice skating, Lakeshia is pushed from behind by her friend Jamal.**

**What is the effect on her motion?**

A. It causes her to stop.

B. It decreases her speed.

C. It increases her speed.

D. It does not change her motion.

**6.When you clap your hands, what happens to the energy of motion in your hands?**

A. It becomes sound energy and heat energy.

B. It becomes potential energy and solar energy.

C. Some is lost, and some becomes sound energy.

D. Some is lost, and some becomes chemical energy.

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**7.All of the following are examples of forces acting upon an object to change its velocity except ___________.**

A. a consistent mass

B. angle of contact

C. pull of gravity

D. amount of friction

**8.Acceleration happens when an object speeds up, slows down, or __________.**

A. generates heat

B. changes direction

C. has a chemical change

D. stays in the same place

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# اسئلة بنك المعرفة / Summative Assessment 1

## Unit 2 – Concept 1 Exam1: Starting and Stopping

☑

**1-Imagine you are riding in a car down the highway. Select the objects that you can look at to let you know the car is in motion.**

تخيل أنك تركب سيارة على الطريق السريع. حدد الأشياء التي يمكنك النظر إليها لإعلامك بأن السيارة تتحرك.

The baseball sitting in the seat next to you. كرة قدم على المقعد بجانبك .

The sign on the highway telling you the speed limit. اللافتة الموجودة على الطريق السريع تخبرك بحدود السرعة .

The can of soda in the cup holder. علبة الصودا في حامل الكأس .

The light pole you see out the window. عمود الإنارة الذي تراه من النافذة .

The parked car that you pass on the road. السيارة المتوقفة التي تمر بها على الطريق.

**2.Select two sentences that describe the exertion of force on a wheelbarrow. حدد جملتين تصفان بذل القوة على عربة يدوية.**

- Jack is going to use a wheelbarrow to haul rocks from one area to another. سيستخدم جاك عربة يد لسحب الصخور من منطقة إلى أخرى.
- The wheelbarrow is sitting at one end of the path.
  عربة اليد جالسة في أحد طرفي المسار.
- Jack loads rocks from a pile nearby into the wheelbarrow.
  يقوم جاك بتحميل الصخور من كومة قريبة إلى عربة اليد.
  Once the wheelbarrow is full of rocks, they are ready to be moved to the opposite end of the path. بمجرد امتلاء عربة اليد بالصخور ، تكون جاهزة للانتقال إلى الطرف الآخر من المسار.
- Jack lifts the wheelbarrow's handles and pushes it along the path.
  يرفع جاك مقابض عربة اليد ويدفعها على طول المسار.
- After arriving at the destination, he prepares to dump the rocks.
  بعد وصوله إلى الوجهة ، يستعد لرمي الصخور.
- He pushes the handles of the wheelbarrow upward so that the rocks fall out of the front.

يدفع مقابض عربة اليد لأعلى حتى تتساقط الصخور من الأمام.

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**3-Choose the correct words to complete the sentences below.**

A force can cause several different things to happen to an object. A force can cause objects to **move**. This can occur when two forces acting on an object are **unbalanced**. It can also happen if there is **only one** force. When there are two **balanced** forces acting in **opposite** directions, the object will remain still.

يمكن أن تتسبب القوة في حدوث عدة أشياء مختلفة لجسم ما. يمكن أن تتسبب القوة في تحريك الأشياء. يمكن أن يحدث هذا عندما تكون قوتان تعملان على جسم غير متوازنتين. يمكن أن يحدث أيضًا إذا كانت هناك قوة واحدة فقط. عندما تكون هناك قوتان متوازنتان تعملان في اتجاهين متعاكسين ، سيبقى الجسم ثابتًا.

**4.The class is playing tug of war during recess. There are 10 students on either side of the rope. What would explain that no one has moved?**

الفصل يلعب لعبة شد الحبل خلال فترة الراحة. يوجد 10 طلاب على جانبي الحبل. ما الذي يفسر أنه لم يتحرك أحد؟

A. One team has more force than the other. فريق واحد لديه قوة أكبر من الآخر.

B. One team has half the force of the other. فريق واحد لديه نصف قوة الآخر.

C. The teams have equal and opposite forces. الفرق لديها قوى متساوية ومتقابلة.

D. The teams have unequal and opposite forces. الفرق لديها قوى غير متكافئة ومتقابلة.





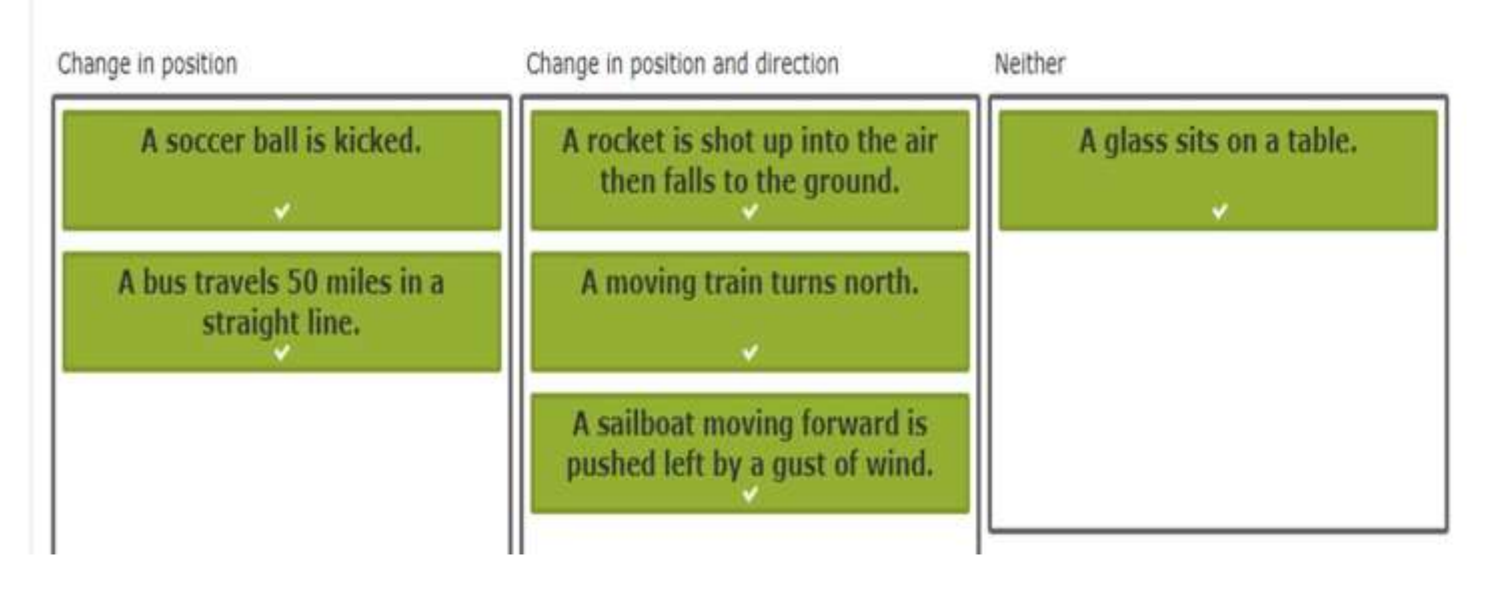
.دد ما إذا كانت كل عبارة أدناه تصف تغييرًا في الموضع ، أو تغييرًا في كل من الموضع والاتجاه ، أو لا يصف أيًا منهما

5. Decide if each statement below describes a change in position, a change in both position and direction, or neither.

| A soccer ball is kicked.<br>.ركلت كرة قدم | A glass sits on a table.<br>.كوب على طاولة | A rocket is shot up into the air then falls to the ground.<br>.يُطلق صاروخ في الهواء ثم يسقط على الأرض |
|---|---|---|
| A moving train turns north.<br>.قطار متحرك يتجه شمالاً | A bus travels 50 miles in a straight line.<br>يسافر الحافلة لمسافة 50 ميلاً في خط | A sailboat moving forward is pushed left by a gust of wind.<br>زورق شراعي يتحرك للأمام يتم دفعه إلى اليسار بفعل عاصفة من الرياح. |

| Change in position | Change in position and direction | Neither |
|---|---|---|
| | | |

Dr Mahmoud El Essely








قرر ما إذا كانت حركة الأجسام أدناه ستتوقف إما بقوة الاحتكاك أو عن طريق الاصطدام بجسم آخر.

6. Decide if the motion of the objects below will be stopped by either the force of friction or by a collision with another object.

A soccer ball rolls across a field.

كرة قدم تتدحرج عبر الملعب.

A car rolls into a wall.

سيارة تتدحرج في الحائط.

A pitcher throws a baseball to the catcher.

رمي القاذف كرة بيسبول على الماسك.

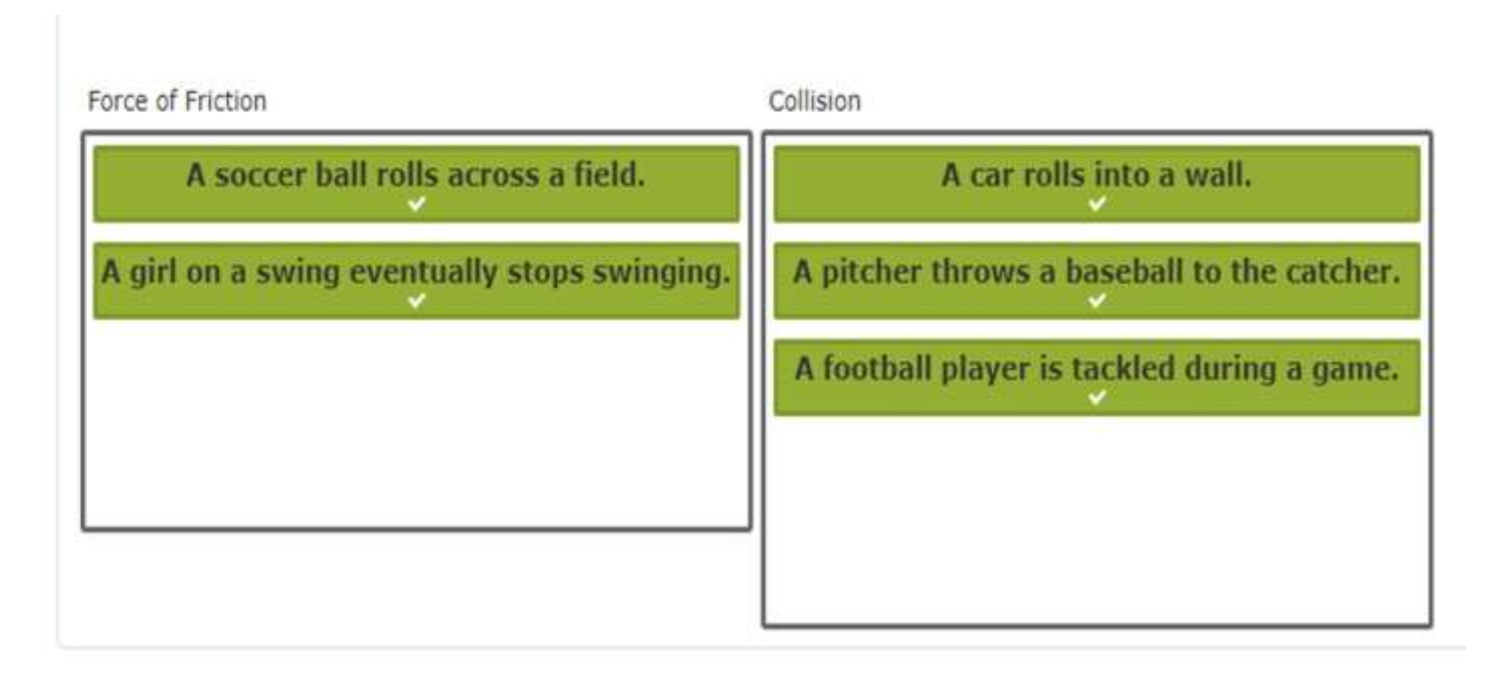
A football player is tackled during a game.

يتم التعامل مع لاعب كرة قدم أثناء إحدى

A girl on a swing eventually stops swinging.

فتاة على الأرجوحة تتوقف في النهاية عن التأرجح.

| Force of Friction | Collision |
| --- | --- |
| | |











**7.Which of the following indicates motion? أي مما يلي يشير إلى الحركة؟**

A. bicycle

B. sunlight

C. running water المياه الجارية

D. guitar string اوتار الجيتار

**8.Choose the two sentences about force that are true.**

a) A force always causes movement.
b) A force is a push or a pull.
c) Two forces must be equal.
d) Two forces can be unbalanced.
e) Forces are only created by people.
f) A force always leads to work.

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**9.A toy car is sitting still in the driveway. Lee kicks the car and it spins moving sideways. The car is considered in motion because ________.**

سيارة لعبة جالسة في الممر. يركل لي السيارة ويدور متحركًا جانبيًا. تعتبر السيارة في حالة حركة لأن

A. the car was kicked تم ركل السيارة

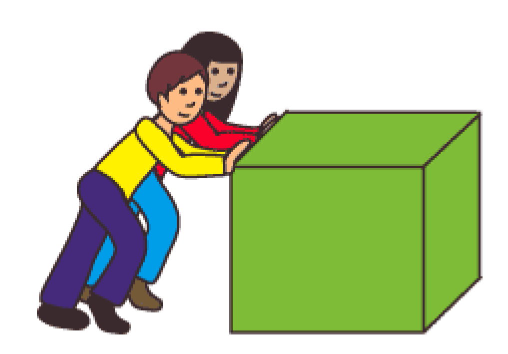
B. the car did a wheelie قامت السيارة بحركة بهلوانية بالدراجة

C. the car has four wheels السيارة لديها أربع عجلات

D. the position of the car changed تغير موضع السيارة




**10- Maria is pushing a big box. David comes to help her.** ماريا تدفع صندوقا كبيرا. ديفيد يأتي لمساعدتها.



**How does this change the force and motion of the box?** كيف يغير هذا من قوة الصندوق وحركته؟

- **A.**
  It does not change the force or the motion. لا يغير القوة أو الحركة.
- **B.**
  It increases the force and decreases the motion. يزيد من القوة ويقلل من الحركة.
- **C.**
  It increases the force and increases the motion. يزيد من القوة ويزيد من الحركة.
- **D.**
  It decreases the force and increases the motion. يقلل من القوة ويزيد من الحركة.

**11.Margarite notices that the position of her golf ball on the green has changed in comparison to the flagpole in the hole. This change is a result of ____________________.**

لاحظت مارجريت أن موضع كرة الجولف الخاصة بها على الأخضر قد تغير مقارنة بسارية العلم في الحفرة. هذا التغيير نتيجة

A. motion of the flagpole حركة سارية العلم

B. motion of the ball حركة الكرة

C. speed of the ball سرعة الكرة

D. speed of the flagpole سرعة سارية العلم

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## اسئلة بنك المعرفة / Practice Assessment 2

## Unit 2 – Concept 1 Exam 2 : Starting and Stopping

INSTRUCTIONS: Check your understanding with this practice assessment.

1.What is needed for an object to start moving?

A. speed

B. force

C. matter

D. electricity

2.Andrea is playing soccer. When she is dribbling the ball she uses short, soft kicks. Each kick moves the ball a small distance. How does her kick change when she wants the ball to go a long distance quickly?

أندريا تلعب كرة القدم. عندما تقوم بمراوغة الكرة ، فإنها تستخدم ركلات قصيرة وناعمة. كل ركلة تحرك الكرة مسافة صغيرة. كيف تتغير ركلتها عندما تريد أن تقطع الكرة مسافة طويلة بسرعة؟

A. She kicks with more force.

B. She kicks with less force.

C. She kicks with the same force.

D. She uses a lot of short kicks.





3.Ray raked the leaves into a pile. He came back ten minutes later and they were scattered by the wind. How can the wind move objects?

قام راي بتجميع الأوراق في كومة. عاد بعد عشر دقائق وتبعثرتهم الريح. كيف يمكن للريح أن تحرك الأشياء؟



A. It has force.

B. It has gravity.

C. It has magnetism.

D. It has a large mass.

4. Which form of energy involves an object going from one place to another place?

أي شكل من أشكال الطاقة ينطوي على انتقال جسم من مكان إلى مكان آخر؟

A. electricity

**B. motion**

C. light

D. nuclear الطاقة النووية

5.Rob is ice skating. His older brother comes from behind and pushes him.

What happens to Rob's speed? روب يتزلج على الجليد. يأتي أخوه الأكبر من الخلف ويدفعه ، ماذا يحدث لسرعة روب؟



A. He stops.

B. He slows down.

**C. He speeds up.**

D. He continues at the same speed.

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6. Which of the following situations describes the use of a force?

A. rotting wood

**B. pushing a swing   دفع الأرجوحة**

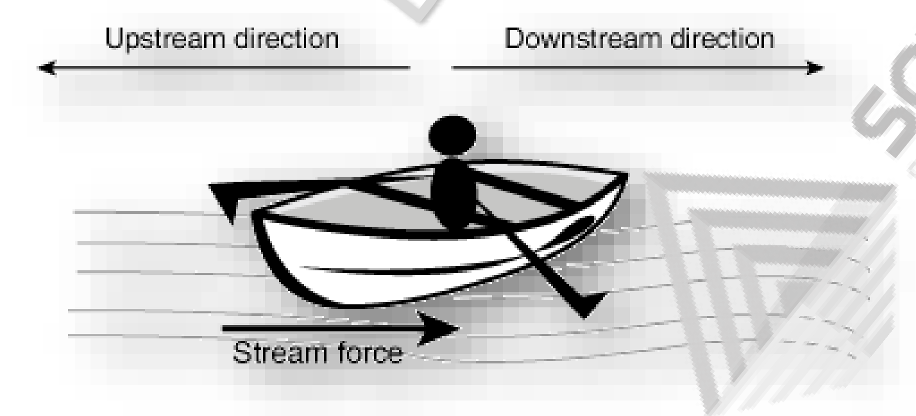
C. seeing a rainbow

D. hearing the television

7.Look at the picture below to answer the question.

A boat can move upstream if it is rowed with a force ____.

يمكن للقارب أن يتحرك في اتجاه المنبع إذا تم تجديفه بقوة




A. less than stream force in an upstream direction

B. less than stream force in a downstream direction

**C. greater than stream force in an upstream direction أكبر من قوة التيار فى اتجاه المنبع**

D. greater than stream force in a downstream direction

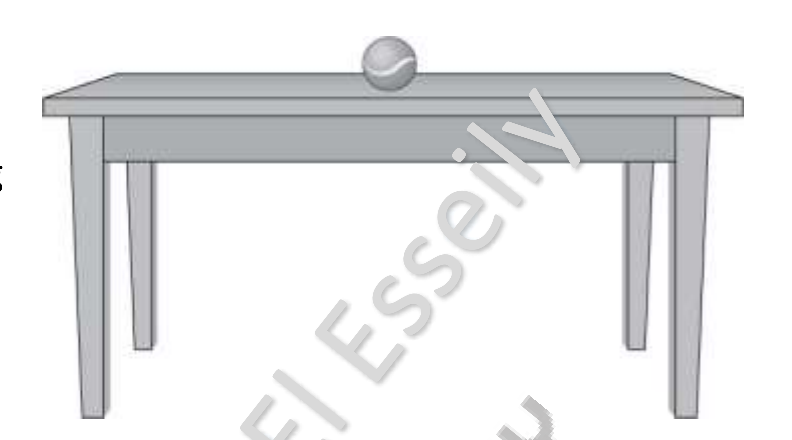
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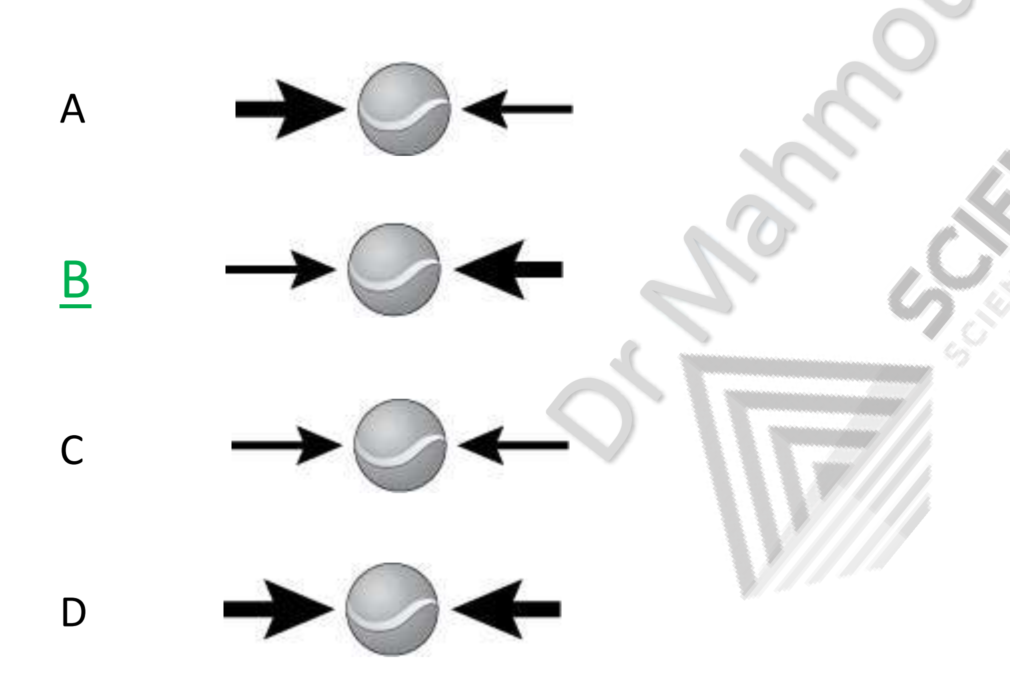



8.A ball is at rest on a table.



The arrows below represent forces. The size of the arrow shows how strong the force is. Which of the following pairs of forces acting on the ball will cause the ball to move to the left?

الأسهم أدناه تمثل القوى. يوضح حجم السهم مدى قوة القوة. أي من أزواج القوى التالية المؤثرة على الكرة سيجعل الكرة تتحرك إلى اليسار؟






## اسئلة بنك المعرفة - unit 2 - Concept 2- Exam 1

## Energy and Motion: Summative Assessment

**1. Your friend says the local hydroelectric plant creates electricity for your town. You know that this is not quite true because energy is not created or destroyed; it just changes from one form to another.**

Read the description about the hydroelectric plant. Select the sentences that will prove to your friend that energy is not being created, but mechanical energy is being converted into electrical energy.

يقول صديقك أن المحطة الكهرومائية المحلية تولد الكهرباء لمدينتك. أنت تعلم أن هذا ليس صحيحًا تمامًا لأن الطاقة لا يتم إنشاؤها أو تدميرها ؛ إنه يتغير من شكل إلى آخر.

اقرأ الوصف الخاص بالمحطة الكهرومائية. حدد الجمل التي ستثبت لصديقك أن الطاقة لا يتم إنشاؤها ، ولكن يتم تحويل الطاقة الميكانيكية إلى طاقة كهربائية.

Hydroelectric plants often have reservoirs of water built up behind a dam. This is why you often see a lake by a hydroelectric plant. The plant releases some of the water through a tunnel. **The moving water spins the blades of a giant turbine. The turbine is connected to a generator, and the energy is changed into electricity for the town to use.** The electricity flows through wires into the townspeople's homes.

غالبًا ما تحتوي المحطات الكهرومائية على خزانات مياه متراكمة خلف أحد السدود. هذا هو السبب الذي يجعلك ترى بحيرة بالقرب من محطة توليد الطاقة الكهرومائية. **يطلق المصنع بعض الماء عبر نفق. يدور الماء المتحرك ريش التوربينات العملاقة. التوربين متصل بمولد ، ويتم تحويل الطاقة إلى كهرباء لتستخدمها المدينة.** تتدفق الكهرباء عبر الأسلاك إلى منازل سكان البلدة.





**2.When gasoline is burned, stored chemical energy is released in the form of ________ and light.** عند حرق البنزين ، يتم إطلاق الطاقة الكيميائية المخزنة على شكل ________ وضوء.

A. fumes

B. carbon dioxide

C. sparks

**D. heat**

**3.You toss a ball into the air. The ball falls and then bounces back into the air. What happens to its energy?** أنت تقذف كرة في الهواء. تسقط الكرة ثم ترتد مرة أخرى في الهواء. ماذا يحدث لطاقتها؟

A. All of the energy remains unchanged.

B. More energy is created as the ball bounces.

C. Some energy is destroyed as the ball bounces.

**D. Some energy changes to other forms of energy.** تتغير بعض الطاقة إلى أشكال أخرى من الطاقة.

**4.What happens to energy when a log is on fire?** ماذا يحدث للطاقة عندما يحترق جذوع الأشجار؟

**A. The energy changes form, but no energy is lost.** يتغير شكل الطاقة ، لكن لا يتم فقد أي طاقة.

B. The energy stays the same, but no energy is lost.

C. The log loses energy and must create more energy.

D. The fire burns until all energy has been lost.





**5.There are lots of ways one form of energy can be transformed into another form.**

**Match the action with the correct energy transformation. Each action will match an energy transformation. Not all of the energy transformations will have a match to an action.**

هناك العديد من الطرق التي يمكن بها تحويل أحد أشكال الطاقة إلى شكل آخر.

طابق الإجراء بتحويل الطاقة الصحيح. سيتطابق كل إجراء مع تحول في الطاقة. لن تتطابق كل تحولات الطاقة مع حدث ما.

| Action | Energy Transformation |
| --- | --- |
| Kate lifts a bowling ball to the top of a slide. | motion → gravitational potential |
| The ball begins to roll down the slide. | gravitational potential → motion |
| The rolling ball makes a lot of noise on the metal slide. | motion → sound |
| The ball strikes the head of a nail which gets pounded into a piece of wood, heating the nail and wood a little. | motion → thermal |

Energy Transformation options: motion → sound; chemical → electrical; gravitational potential → motion; motion → gravitational potential; motion → thermal; motion → light





**6.When you clap your hands, what happens to the energy of motion in your hands?** **عندما تصفق بيديك ، ماذا يحدث لطاقة الحركة في يديك؟**

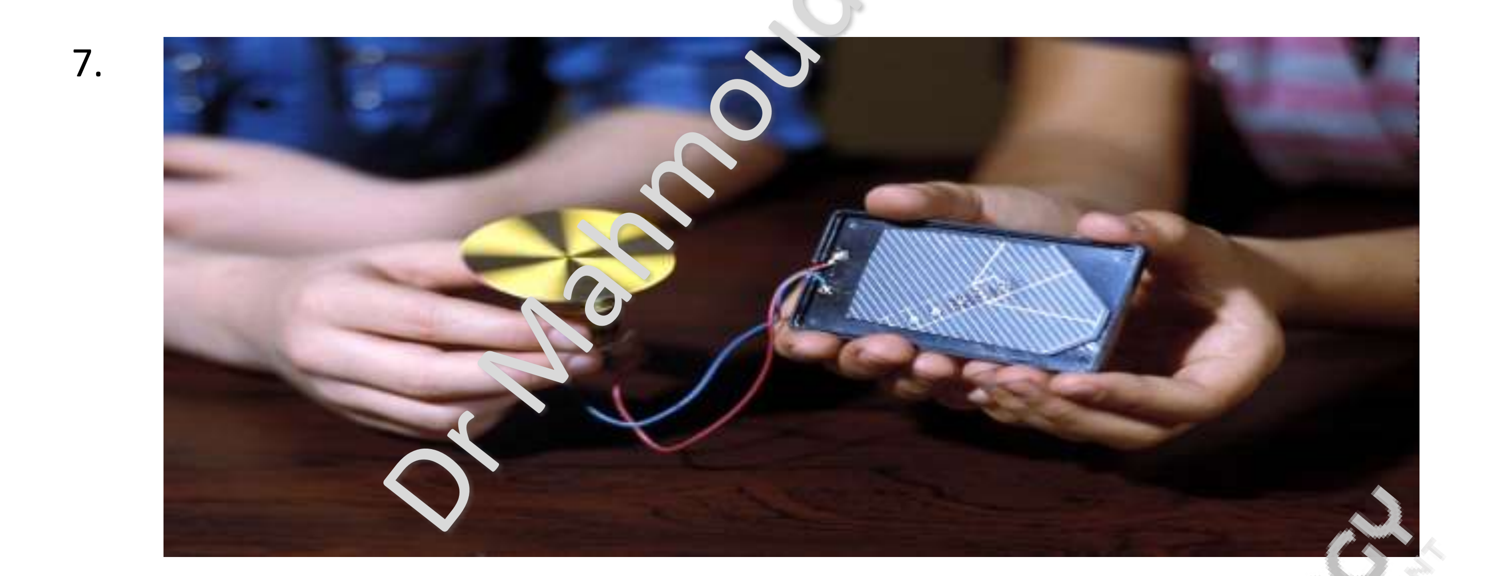
**A. It becomes sound energy and heat energy. تصبح طاقة صوتية وطاقة حرارية.**

B. It becomes potential energy and solar energy.

C. Some is lost, and some becomes sound energy.

D. Some is lost, and some becomes chemical energy.

7.



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Samantha received a solar cell kit for her birthday. Samantha and her father followed the instructions in the kit. They got the solar cell to spin a small motor when they put the solar cell in sunlight. They had fun with this project and talked a lot about it together. When Samantha's mother came home from work that day, Samantha was eager to show her mother how the solar cell made the motor spin and to explain how it worked.

Help Samantha with her explanation by choosing the correct terms to complete the paragraph.





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موقع مذكرات جاهزة للطباعة

تلقت ساماناثا مجموعة الخلايا الشمسية في عيد ميلادها. اتبعت ساماناثا ووالدها التعليمات الموجودة في العدة. لقد جعلوا الخلية الشمسية تدور بمحرك صغير عندما وضعوا الخلية الشمسية في ضوء الشمس. لقد استمتعوا بهذا المشروع وتحدثوا كثيرًا عنه معًا. عندما عادت والدة ساماناثا إلى المنزل من العمل في ذلك اليوم ، كانت ساماناثا حريصة على أن توضح لوالدتها كيف تقوم الخلية الشمسية بتدوير المحرك وشرح كيفية عملها.

ساعد ساماناثا في شرحها باختيار المصطلحات الصحيحة لإكمال الفقرة.

The [light] energy from the sun shines on the solar cell and is converted into [electrical] energy. This energy then flows through the wires to the motor where it is converted into [mechanical] energy. The spinning disk is evidence that [energy] from the sun has the ability to [do work]. All these changes mean that energy can come in different [forms].

تشرق الطاقة **الضوئية** المنبعثة من الشمس على الخلية الشمسية وتتحول إلى **طاقة كهربائية** طاقة. ثم تتدفق هذه الطاقة عبر الأسلاك إلى المحرك حيث يتم تحويلها **الطاقة الميكانيكية**. القرص الدوار دليل على أن **الطاقة** من الشمس لها القدرة على **ذلك** **اعمل**. كل هذه التغييرات تعني أن الطاقة يمكن أن تأتي في **أشكال** مختلفة.

**8.Which ball has kinetic energy but not potential energy?**

**أي كرة لها طاقة حركية ولكن ليس بها طاقة كامنة**

A. a ball rolling down a ramp

B. a ball sitting on a high shelf

C. a ball bouncing up and down

**D. a ball rolling on a flat sidewalk كرة تتدحرج على رصيف مسطح**






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**9.Which type of energy change occurs when a person rides a bike?**

**ما نوع تغير الطاقة الذي يحدث عندما يركب الشخص دراجة؟**

A. heat energy changes to potential energy

**B. chemical energy changes to kinetic energy تتغير الطاقة الكيميائية إلى الطاقة الحركية**

C. solar energy changes to chemical energy

D. kinetic energy changes to nuclear energy

**10.Which of the following can store energy? أي مما يلي يمكنه تخزين الطاقة؟**

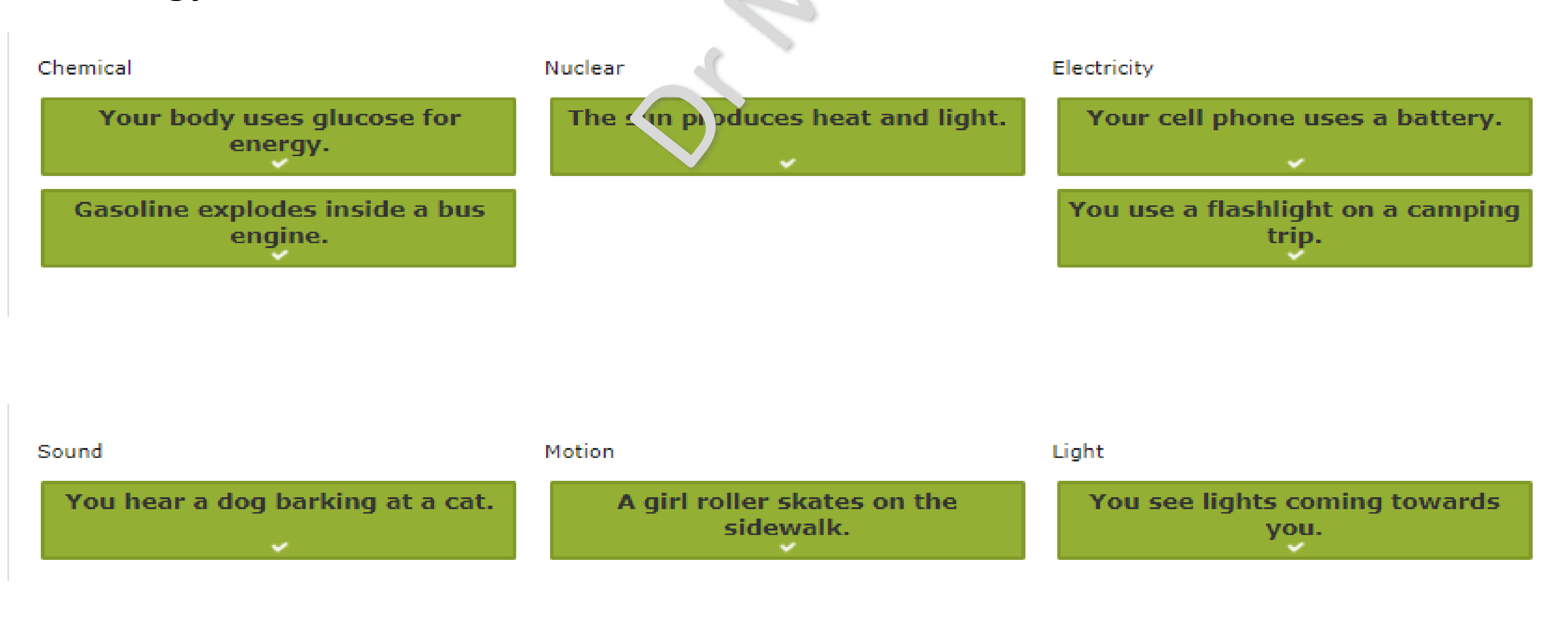
**A. battery**

B. wire

C. plastic

D. rubber

**11.Examples of how we use energy are listed below. Move each to the form of energy used.**




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## اسئلة بنك المعرفة - unit 2 - Concept 2- Exam 2

## Energy and Motion: Practice Assessment

**1.In winter, some people turn on a gas fireplace to stay warm. Others use a generator or burn wood. Which, if any of these, are examples of using energy?**

**في الشتاء ، يشعل بعض الناس مدفأة تعمل بالغاز للتدفئة. يستخدم البعض الآخر مولدًا أو يحرقون الخشب. اى منهم ، إن وجدت ، تعتبر أمثلة على استخدام الطاقة**

**A. All are examples of using energy because work is done in each case.**

**كلها أمثلة على استخدام الطاقة لأن العمل يتم في كل حالة**

B. None are examples of using energy because work is not done in any case.

C. Only using the generator is an example of using energy because the generator does work to make electricity.

D. Only using a gas fireplace and burning wood are examples of using energy because gas and wood are fuels.

**2.Which of the following is able to store energy? أي مما يلي قادر على تخزين الطاقة**

A. a light switch

B. a light bulb

C. a wire

**D. a battery**

**3.How do our bodies get energy from the sun? كيف تحصل أجسامنا على الطاقة من الشمس**

**A. We eat plants that contain energy stored from the sun during photosynthesis.**

نحن نأكل النباتات التي تحتوي على الطاقة المخزنة من الشمس أثناء عملية التمثيل الضوئي

B. We absorb light energy from the sun and convert it into energy we can use during photosynthesis.

C. Heat energy from the sun warms our bodies to release stored energy from within our cells.

D. Heat energy from the sun is used to cook the foods that we eat.





**4.______ are forms of energy that are released when you burn a log.**

**.هي أشكال من الطاقة يتم إطلاقها عند حرق جذوع الأشجار ______.**

A. Heat and light

B. Chemical and physical

C. Motion and sound waves

D. Solar and electricity

**5. ______ can be converted into several different forms at the same time.**

**.يمكن تحويلها إلى عدة أشكال مختلفة في نفس الوقت ______**

A. Elements

B. Animals

C. Plants

D. Energy

**6.The stored ______ energy in a match can be released later.**

**يمكن تحرير الطاقة ______ المخزنة في الكبريت لاحقًا**

A. chemical

B. electrical

C. heat

D. light





**7. Which form of energy involves an object going from one place to another place?** **أي شكل من أشكال الطاقة يتضمن جسمًا ينتقل من مكان إلى مكان آخر**

A. electricity

**B. motion**

C. light

D. nuclear

**8. What type of energy does your body use to walk, run, and lift things?**

**ما نوع الطاقة التي يستخدمها جسمك للمشي والجري ورفع الأشياء**

**A. chemical energy**

B. light energy

C. mechanical energy

D. nuclear energy

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## اسئلة بنك المعرفة - unit 2 - Concept 3- Exam 1

## Speed: Summative Assessment

**1.Read each situation below and decide if the speed of the object will increase or decrease, based on the force that is applied to it.**

**اقرأ كل موقف أدناه وقرر ما إذا كانت سرعة الجسم ستزيد أم ستنقص ، بناءً على القوة التي يتم تطبيقها عليه.**

| Speed Will Increase | Speed Will Decrease |
|---|---|
| A sailboat gets pushed from behind by a gust of wind. ✓ عاصفة من الرياح تدفع مركبًا شراعيًا من الخلف | A ball rolls into a wall. ✓ تتدحرج الكرة في الجدار |
| A soccer ball is kicked. ✓ ركلت كرة قدم. | A man pulls on the leash of a dog, as the dog tries to run away. ✓ رجل يسحب طوق كلب بينما يحاول الكلب الهرب. |
| A pitcher throws a baseball. ✓ الرامي يرمي كرة بيسبول. | |

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**2.Read the statements below and select the ones that give enough information to determine the speed of the object.**

**اقرأ العبارات أدناه وحدد العبارات التي تقدم معلومات كافية لتحديد سرعة الجسم**

تمكنت السيارة من قطع مسافة 200 ميل في 4 ساعات.

| | |
|---|---|
| A boy ran 2 miles on a cold and windy morning. | A car was able to travel 200 miles in 4 hours. ✓ |
| A plane was in the air for 6 hours and went higher than 25,000 feet. | A horse ran around the 2-kilometer racetrack in 2 minutes. ✓ |
| A boat traveled 4 miles across the lake when the temperature was 55°F. | |

ركض حصان حول مضمار السباق الذي يبلغ طوله كيلومترين في دقيقتين.

**3.How is speed determined? كيف يتم تحديد السرعة**

**A. distance traveled per unit of time المسافة المقطوعة لكل وحدة زمنية**

B. time per unit of distance traveled

C. mass per unit of distance traveled

D. volume per unit of mass

**4.Which formula can be used to determine speed? ما الصيغة التي يمكن استخدامها لتحديد السرعة**

**A. distance/time المسافة / الزمن**

B. time/distance

C. mass/time

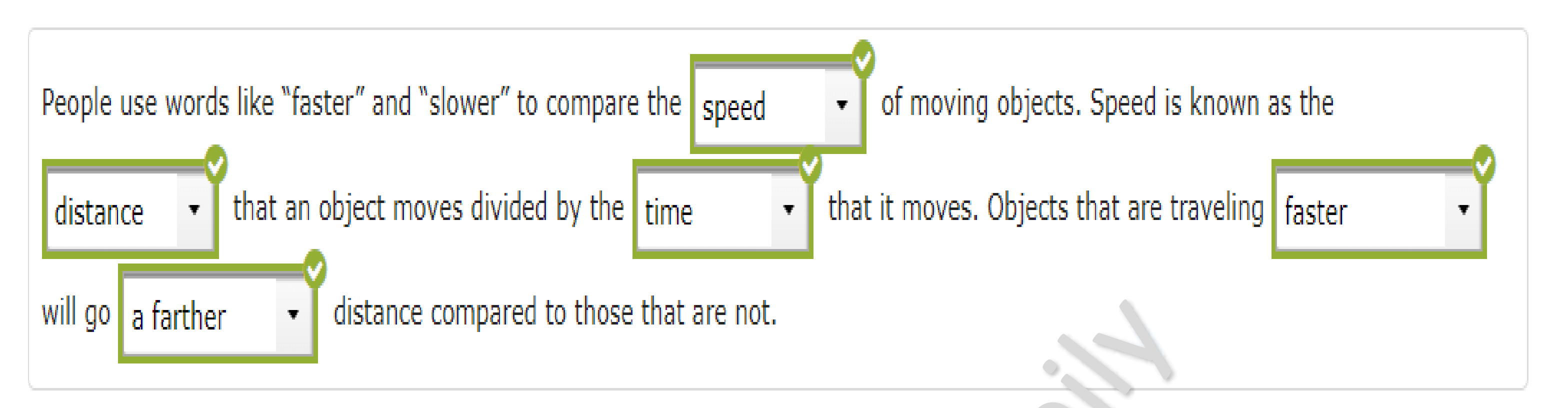
D. time/mass






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5. Choose the words or phrases to complete the sentences.


People use words like "faster" and "slower" to compare the [speed] of moving objects. Speed is known as the [distance] that an object moves divided by the [time] that it moves. Objects that are traveling [faster] will go [a farther] distance compared to those that are not.

يستخدم الناس كلمات مثل "أسرع" و "أبطأ" لمقارنة **سرعة** الأجسام المتحركة. تُعرف السرعة **بالمسافة** التي يتحرك بها الجسم مقسومة على **الوقت** الذي يتحرك فيه. الأشياء التي تسافر

**أسرع** سيقطع مسافة **أبعد** مقارنة بتلك التي ليست كذلك

**6.Arla is going down the slide. Her mother gives her a push. How does the push affect her motion down the slide?**

**آرلا تتجه نحو الأسفل. تعطيها والدتها دفعة. كيف تؤثر الدفعة على حركتها لأسفل الشريحة**

A. The push decreases her speed.

**B. The push increases her speed. الدفع يزيد من سرعتها**

C. The push does not affect her speed.

D. The push stops her downward motion.

**7.What is calculated as the distance traveled per unit of time? ما يتم حسابه على أنه المسافة المقطوعة لكل وحدة زمنية**

A. work

**B. speed السرعة**

C. density

D. acceleration

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**8-Select the sentence that correctly describes the relationship between speed and time.**

**حدد الجملة التي تصف بشكل صحيح العلاقة بين السرعة والوقت**

The faster the speed of an object, the shorter distance it can travel in a set time.

**The faster the speed of an object, the less amount of time it takes to travel a set distance.**

كلما زادت سرعة الجسم ، قل الوقت المستغرق لقطع مسافة معينة

The speed of an object is equal to the amount of time it takes to travel a set distance.

The speed of an object increases as the amount of time traveled increases.

The speed of an object decreases as the time it takes to travel increases.

**9.Jewel was paddling a rubber raft in the pool. Pat swam in back of the raft and began pushing it. What was the effect on the raft's motion?**

**كانت جوهرة تجذف طوفًا مطاطيًا في حوض السباحة. سبحت بات في الجزء الخلفي من الطوافة وبدأت في دفعها. ما هو تأثير حركة الطوافة؟**

A. It stopped.

**B. It increased in speed.** ازدادت السرعة

C. It decreased in speed.

D. It moved at the same speed.

**10.A snail and a cat are in a race. The cat always travels faster than the snail. If both animals leave the starting line at the same time, which races will the cat always win?**

**هناك سباق قطة وحلزون. يسافر القط دائمًا أسرع من الحلزون. إذا ترك كلا الحيوانين خط البداية في نفس الوقت ، فأي السباقات ستفوز بها القطة دائمًا**

A. only races across long distances, not short distances

B. only races across short distances, not long distances

**C. races of any length** السباقات بأي طول

D. no races





**11.Read the story below and select the sentences that give enough information to determine Ethan's speed.**

When school ended, Ethan rode home on his skateboard. He increased his speed as he went down a hill. It took Ethan 15 minutes to get home, because he lives only one mile from his school. After he got home, he took his dog for a walk. Ethan walked the dog a total of two miles in 30 minutes. His dog walked slowly until it started to chase a squirrel. After Ethan got home, his mom drove him to basketball practice. It took 45 minutes to get to practice. After practice, Ethan's mom drove 10 miles home, but this time it only took them 20 minutes.

عندما انتهت المدرسة ، ركب إيثان المنزل على لوح التزلج الخاص به. زاد من سرعته عندما نزل من التل. استغرق إيثان 15 دقيقة للوصول إلى المنزل ، لأنه يعيش على بعد ميل واحد فقط من مدرسته. بعد أن عاد إلى المنزل ، أخذ كلبه في نزهة على الأقدام. سار إيثان مع الكلب لمسافة تصل إلى ميلين في 30 دقيقة. مشى كلبه ببطء حتى بدأ في مطاردة سنجاب. بعد أن عاد إيثان إلى المنزل ، قادته والدته إلى ممارسة كرة السلة. استغرق الأمر 45 دقيقة للتدرب. بعد التدريب ، قادت والدة إيثان مسافة 10 أميال إلى المنزل ، لكن هذه المرة استغرقتهم 20 دقيقة فقط

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**12.Douglas is sliding down the hill on a piece of cardboard. His sister pushes him from behind. What effect does this have on his motion?**

**دوغلاس ينزلق أسفل التل على قطعة من الورق المقوى. أخته تدفعه من الخلف. ما هو تأثير هذا على حركته؟**

A. He stops.

**B. He speeds up. إنه يسرع**

C. He slows down.

D. His motion remains the same.

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## Speed: Practice Assessment

**1.Three friends race from the school to the playground. They leave the school at the same time. Which friend must be the fastest?**

**يتسابق ثلاثة أصدقاء من المدرسة إلى الملعب. يغادرون المدرسة في نفس الوقت. أي صديق يجب أن يكون الأسرع؟**

**A. the friend who arrives at the playground first الصديق الذي يصل إلى الملعب أولاً**

B. the friend who arrives at the playground last

C. the tallest friend

D. the oldest friend

**2.The rate at which an object changes its position over time is called ___________.**

**يُطلق على المعدل الذي يغير به جسم ما موضعه بمرور الوقت**

**A. speed السرعة**

B. velocity

C. acceleration

D. motion

**3.Wally is driving a car at 90 kilometers per hour along a highway. A second car is ahead of Wally, but it gradually becomes closer. Soon Wally passes this car. What could be the speed of the second car?**

**يقود "والي" سيارة بسرعة 90 كيلومترًا في الساعة على طول طريق سريع. سيارة ثانية تتقدم على "والي" ، لكنها تقترب تدريجياً. سرعان ما يمر "والي" بهذه السيارة. ماذا يمكن أن تكون سرعة السيارة الثانية؟**

A. 0 kilometers per hour

**B. 80 kilometers per hour**

C. 90 kilometers per hour

D. 100 kilometers per hour





**4.At a bowling alley, a bowler tries to roll the ball at a fast speed. If she succeeds, she can predict that the ball will**

**في صالة البولينج ، يحاول اللاعب دحرجة الكرة بسرعة كبيرة. إذا نجحت ، يمكنها أن تتنبأ بأن الكرة ستفعل**

A. travel in a straighter path

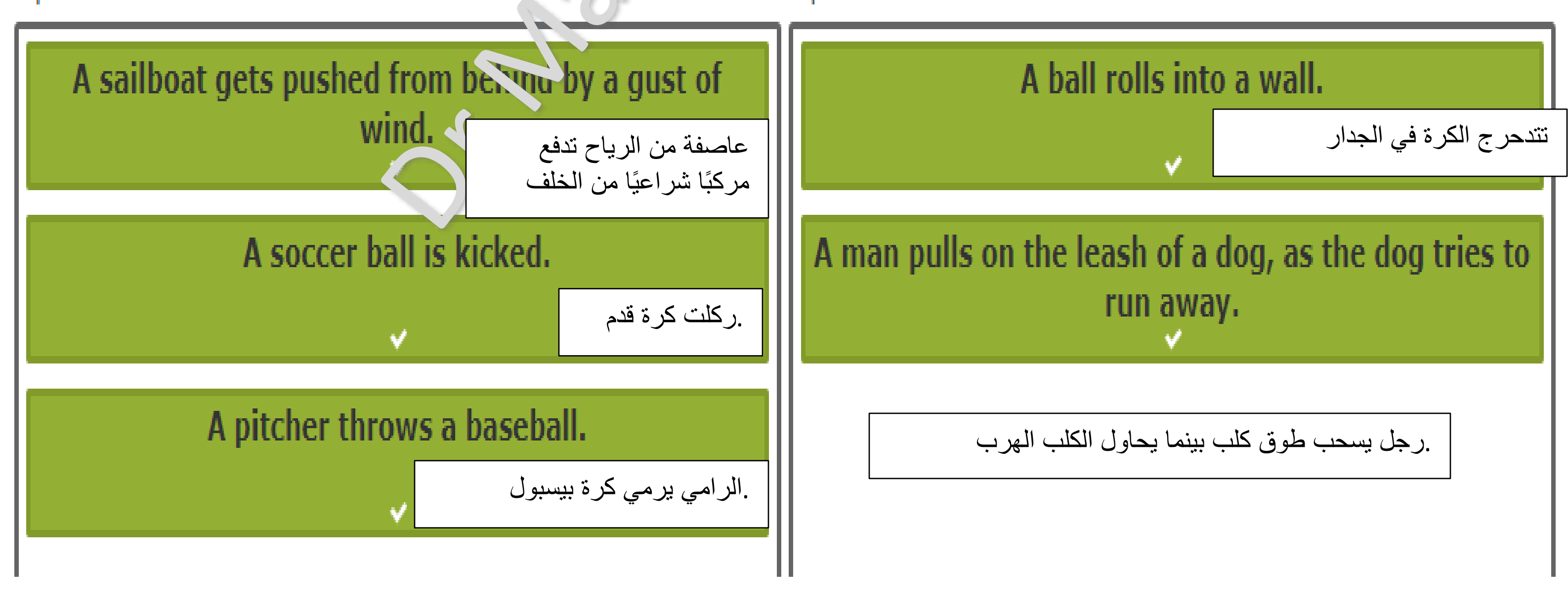
B. knock down more pins

**C. reach the pins in less time تصل إلى الكرات في وقت أقل**

D. reach the pins in a longer time

**5.Read each situation below and decide if the speed of the object will increase or decrease, based on the force that is applied to it.**

**اقرأ كل موقف أدناه وقرر ما إذا كانت سرعة الجسم ستزيد أم ستنقص ، بناءً على القوة التي يتم تطبيقها عليه.**




**6.Three swimmers race the length of a pool, and then back again. If Ted finishes third with a time of 1 minute and 40 seconds, what could be the time of the winning racer?**

**يتسابق ثلاثة سباحين على طول حوض السباحة ، ثم يعودون مرة أخرى. إذا احتل "تيد" المركز الثالث بزمن دقيقة واحدة و 40 ثانية ، فماذا سيكون وقت المتسابق الفائز؟**





A. 1 minute 33 seconds

B. 1 minute 40 seconds

C. 1 minute 45 seconds

D. 2 minutes exactly

**7.While ice skating, Lakeshia is pushed from behind by her friend Jamal.**

**What is the effect on her motion?** أثناء التزلج على الجليد ، تدفع "لاكيشيا" من الخلف من قبل صديقها "جمال". ما هو تأثير ذلك على حركتها؟

A. It causes her to stop.

B. It decreases her speed.

C. It increases her speed. يزيد من سرعتها

D. It does not change her motion.

**8.Choose the sentence that describes the car that will win the race.**

**اختر الجملة التي تصف السيارة التي ستفوز بالسباق**

| Four friends are racing their remote-control cars. They all begin the race at the same starting line at the same time. John's car travels 10 miles per hour during the entire race. Max's car begins the race at 12 miles per hour and then slows to 10 miles per hour. Susan's car remains traveling at 15 miles per hour throughout the race. Mary has a car that can travel up to 18 miles per hour but its top speed for the race was 14 miles per hour. |
|---|

أربعة أصدقاء يتسابقون بسياراتهم التي تعمل بالتحكم عن بعد. يبدأون جميعًا السباق من نفس خط البداية في نفس الوقت. سيارة جون تقطع 10 أميال في الساعة خلال السباق بأكمله. تبدأ سيارة ماكس السباق بسرعة 12 ميلاً في الساعة ثم تتباطأ إلى 10 أميال في الساعة. تظل سيارة سوزان تسير بسرعة 15 ميلاً في الساعة طوال السباق. ماري لديها سيارة يمكنها السفر بسرعة تصل إلى 18 ميلاً في الساعة ولكن سرعتها القصوى للسباق كانت 14 ميلاً في الساعة.










## Energy and Collisions: Practice Assessment

**1.If all of the following vehicles are traveling at 30 miles per hour on a straight road, which vehicle would be the hardest to stop?.**

**إذا كانت جميع المركبات التالية تسير بسرعة 30 ميلاً في الساعة على طريق مستقيم ، فما هي السيارة التي سيكون من الصعب إيقافها؟**

A. a bicycle

B. a compact car

C. a tractor trailer . مقطورة جرار

**D. a tractor trailer loaded with foam rubber مقطورة جرار محملة بالمطاط**

**2.A car is moving at 55 mph and hits a brick wall. Which of the following explains what will most likely happen to the car due to the force exerted back on it by the brick wall?**

**سيارة تتحرك بسرعة 55 ميلاً في الساعة وتصطدم بجدار من الطوب. أي مما يلي يشرح ما الذي سيحدث على الأرجح للسيارة بسبب القوة المؤثرة عليها من جدار الطوب ؟**

**A. Its speed will decrease. ستنخفض سرعته.**

B. Its speed will increase.

C. Its speed will not be affected.

D. It will climb the wall.

**3.Raul is pushing a grocery cart for his mother. The wheel hits a rock which sticks in the front of the wheel. What effect does the rock have on his speed?**

**يدفع "راؤول" عربة بقالة من أجل والدته. ارتطمت العجلة بحجر عالق في مقدمة العجلة. ما هو تأثير الصخرة على سرعته؟**

A. It is a force with no effect on the speed.

**B. It is a force which will decrease the speed. القوة التي ستقلل السرعة**

C. It is a force which will increase the speed.

D. It is a force which will stop the speed.

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**4.Raul was learning to ride his bike. His father gave him a push from behind and let go. What caused his speed to pick up after the push?**

**كان "راؤول" يتعلم ركوب دراجته. دفعه والده من الخلف وتركه. ما الذي تسبب في زيادة سرعته بعد الدفع**

**A. The force was increased. زادت القوة**

B. The force was decreased.

C. The force was removed.

D. The force stayed the same.

**5.While ice skating, Lakeshia is pushed from behind by her friend Jamal.**

**What is the effect on her motion?**

**أثناء التزلج على الجليد ، تدفع "لاكيشيا" من الخلف من قبل صديقها "جمال". ما هو تأثير ذلك على حركتها**

A. It causes her to stop.

B. It decreases her speed.

**C. It increases her speed. تزيد سرعتها**

D. It does not change her motion.

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**6.When you clap your hands, what happens to the energy of motion in your hands? عندما تصفق بيديك ، ماذا يحدث لطاقة الحركة في يديك؟**

**A. It becomes sound energy and heat energy. تصبح طاقة صوتية وطاقة حرارية**

B. It becomes potential energy and solar energy.

C. Some is lost, and some becomes sound energy.

D. Some is lost, and some becomes chemical energy.





**7.All of the following are examples of forces acting upon an object to change its velocity except ___________. كل ما يلي هو أمثلة للقوى التي تعمل على جسم لتغيير سرعته باستثناء**

A. a consistent mass كتلة

B. angle of contact زاوية الميل او التماس

C. pull of gravity سحب الجاذبية

D. amount of friction مقدار الاحتكاك

**8.Acceleration happens when an object speeds up, slows down, or __________.**

**يحدث التسارع عندما يتسارع الجسم أو يبطئ أو**

A. generates heat

B. changes direction يغير الاتجاه

C. has a chemical change

D. stays in the same place

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